

T H E
Gentleman's Farriery :
O R, A
PRACTICAL TREATISE,
O N T H E
D I S E A S E S o f H O R S E S :

Wherein the best WRITERS on that SUBJECT
have been consulted, and M. LA FOSSE's Method
of TREPPANNING Glander'd Horses, is particularly
Consider'd and Improved.

A L S O,

A New Method of NICKING HORSES is recom-
mended ; with a Copper-Plate and Description of the
MACHINE.

By J. BARTLET, SURGEON.

To this EDITION are ADDED,

The SIEUR LA FOSSE's OBSERVATIONS
and DISCOVERIES made upon Horses, with a new
Method of SHOEING, and some necessary Precautions
to prevent the Glanders ; with Mr. BARTLET's
Account of Mr. LA FOSSE's Observations on Horses.

ILLUSTRATED with COPPER PLATES,

S H E W I N G

The ANATOMY of a HORSE's FOOT ; clearly
pointing out how far we may have Reason to
expect a Removal of Complaints there.

D U B L I N :

Printed for C. WYNNE, at the *Parrot in Caple-street,*
and J. EXSHAW at the *Bible in Dame-street.*

MDCCLVII.

07-472

T H E P R E F A C E.

TH E author of the following treatise was induced to the undertaking, from the complaints so frequently made by gentlemen, of the obscurity, inaccuracy, and tediousness, too general among the writers on the diseases of horses. On this account he thought he should make no unacceptable present to the public, if he collected from the best authors on this subject, such particular *symptoms of distempers*, as would lead to the discovery of the *real one*, and distinguish it from others of a similar nature, rejecting all other descriptions as useless speculations. By a attention to this plan, every gentleman would soon judge of the ability of his farrier, should he think proper to consult one, before he follows the directions here laid down.

WOULD these *practitioners*, instead of ringing the changes with a set of paltry receipts, handed down to them from their ignorant grandfathers, but carefully apply themselves to this so useful and necessary branch of knowledge, and industriously collect and compare the *symptoms of particular diseases*, they would attain much more certainty in their practice, and of course, more safety and expedition in their cures. They would then find, that a few simple medicines, judiciously directed in acute cases, would fully answer their intention, by suffering *nature* to co-operate with them; and that the nauseous ill-

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contrived

contrived drenches, so generally made use of, but too often thwart her operations, and prove of worse consequence than the disease itself.

FOR it is this *knowledge of the symptoms* of diseases, that distinguishes the rational physician from the empirical pretender: it is this accounts for the superior ability and judgment which appears between one physician and another; and it is hence only any progress can be made in the healing art; and more particularly in the diseases of horses, as the suffering animals can only describe their pain by their gestures.

WITH what contempt and indignation then must we view such ignorant pretenders blundering about a distemper, groping in the dark, and throwing in medicines at random? And what a melancholy situation must be that of the unhappy victim? The Power of nature, or strength of constitution, will now and then indeed surmount the ignorance of blunderers, and elude the force of their hotch potches; so that the doctor shall receive applauses and rewards for his imaginary skill, when he deserves ignominy and the severest censures: But what should we conclude hence? why only that some few constitutions, like some fortifications, are bomb-proof, and can support the shocks of the whole medical artillery, without blowing up.

AND here I cannot but lament the strange supineness of many gentlemen, who, though they are real admirers of this useful animal, and spare no expence for the cure of their maladies, yet suffer themselves to be imposed on by illiterate grooms, and unskilful farriers; who, for the sake of their own private advantage, are frequently poaching their horses with drenches, which not only clash with every intention of cure, but aggravate the disorder: whereas would gentlemen but take a little pains (and sure the study would be an entertainment)

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tainment) to make themselves acquainted with the laws of the blood's circulation, and the different secretions of the various fluids; they would soon be convinced (of what I have before hinted) that injudicious jumbles of drugs are only a load on the constitution, and frequently defeat the very intentions of nature; who of herself, or with very little assistance, would in general, soon work her own deliverance; but when the load of the supposed remedy is added to the disease, the oppression becomes too violent for nature long to support; and though the animal has the constitution of a horse, yet must it at last submit, and fall a sacrifice to ignorance and blind credulity.—A few leading questions would also soon convince gentlemen of the stupidity, but too prevalent among the major part of these prating fellows; and satisfy them how precarious, if not fatal, must be the practice of men, so little acquainted with the laws of nature, and of that machine they are subverting by their continual blunders. By these means also the deserving farrier would have proper justice done him, and be distinguished from the common herd, by his superior abilities.

PERHAPS it may be no useless digression to observe here, that this would not be the only advantage resulting from these kinds of studies; as gentlemen would thereby be enabled to form a proper judgment of those guardians, with whom they often intrust their own healths and lives, and distinguish the superficial loquacious coxcomb in physick, from the rational and modest practitioner: For in general it may be observed, that in proportion to the shallowness of the stream, the bubbling and noise is most manifest, and where the froth of science only has been sip'd, 'tis no wonder, as our judicious Satyrist has observed, that such shallow draughts should intoxicate the brain. But till gentlemen make this a more general study; and thereby become

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better

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better judges of physical merit, we must not be surprized to find them sometimes imposed on by such conceited smatterers; whose cant, though deemed oracular by the credulous, is but too like the oracles of old, specious delusion, and vile imposition; where learned impertinence passes for sound erudition, and a barren superfluity of words, for wondrous knowledge and elocution: Thus, sounds are adopted, and mistaken for sense; and impudence and folly but too often triumph over modesty and true desert: For as the above quoted Poet justly observes.

*Distrustful sense with modest caution speaks,
But rattling nonsense, in full volleys breaks.*

BUT to return: It may be necessary to inform the reader, that as the intention of this treatise was to be as concise as possible, and intirely practical; the immediate causes within, which occasion the disorder, with the most plausible theories relative thereto, are in general omitted as precarious and delusive; for we apprehend they tend rather to confound, than improve the judgment, and obscure an art that should chiefly be founded on *penetrating observation*, and *faithful description*. Indeed the incertitude that has always appeared in these sort of conjectures, hath now fully convinced the ingenious of their inutility, and that one *Sydenham*, one faithful recorder of facts, has merited more, by observing and following nature, painting to the life what his eyes saw, and fingers felt, than all the hypothetical writers united: as a proof of this, we need only recollect the numberless, ridiculous, and inconsistent theories, that have sprung up successively, and which all had their patrons for a time, but dwindled into disrepute and oblivion, in proportion to the advances of more plausible conjectures: and this probably will be the fate of all subsequent ones, that are not erected on the more solid basis
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of repeated experience, and sedulous observation.

FOR these reasons particularly we have endeavoured to be as explicit as possible, in *enumerating the symptoms*, as laid down by the best authors; esteeming them to be the only true guides that can lead us to the knowledge of the disease, and consequently to the remedy. Should it be thought we have dwelt too long on this part, we must plead the importance of it for our excuse, as we apprehend, by being more concise, the work had been less valuable.

IT may not be improper here also to acquaint the reader, that this piece was originally drawn up, and intended for the author's own use, to refer to occasionally, and save the trouble of turning over on every occasion the various writers on this subject; and that having been frequently borrowed by his friends, their approbation of the plan, and request, prevailed on him to send it to the press, with some additions. He is well aware how much he exposes himself to the censure of the little criticks, and to the sneers of the malicious among his brethren; but he begs these would remember, that to write pertinently on the diseases of horses, requires more medical knowledge and study than may at first be apprehended; a parity of reasoning being requisite in treating the maladies of horses and men. And he is convinced that so nearly allied is the true art of farriery to those of physick and surgery, that it never can be perfected, but on similar principles; and of course the subject can never be so properly handled, as by those who have made those arts their study: This will evidently appear, by comparing only the two last treatises in our own language with all that have preceded them: For though many useful observations and remedies may be picked up from *Blunderville*, *Markham*, *De Grey*, *Solleysel*,
A 4 *Gueriniere*,

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Gueriniere, Sonere, &c. yet, for the most part, their method is irrational, and not founded on a thorough knowledge of the mechanism of a horse, or animal oeconomy; their medicines in general are a strange compound or jumble of various and discordant ingredients; suitable enough to the then reigning fashion of prescribing, where the false pomp of numerous ingredients enhanced their value; but by no means agreeable to later improvements, or to that just simplicity that so remarkably adorns the practice of modern physick and surgery.

THE author has no other apology to make for digesting this piece, and the observations and reflections he has interspersed throughout the whole, than his good intentions to rescue the practice of farriery out of hands that so much abuse it; and to convince gentlemen that as it is founded on rational principles, it is neither unbecoming their notice, or unworthy their study; and he thinks he has reason, from some late attempts to hope, that it will soon become as customary for gentlemen to go through regular courses of farriery, as it is for physicians and surgeons through those of chemistry and anatomy.

THE deserved reputation that Mr. GIBSON'S late edition of farriery has acquired on account of the many curious observations he has made, and the accuracy with which he has described the symptoms of horses diseases, was no small inducement also to the author's consenting to this publication; as it was intended to epitomize, or rather glean from that work and others, whatever he judged would be most useful in practice. We here, too, gratefully acknowledge our obligations to Dr. BRACKEN'S treatise on this subject, for many ingenious observations, and real improvements, and must confess that in our opinion, these two gentlemen, are the
only

only authors, who have treated the diseases of horses, with propriety, judgment, and method; though perhaps there are few of note, that we have not carefully perused, in order to render this treatise more complete; but these are the chief of those, who have successfully contributed to introduce a rational system of farriery, and to assist gentlemen in judging for themselves in cases, wherein every person of a superior education, with any tolerable share of experience, may at least put himself on a footing with the generality of our horse-doctors.

TERMS of art, and obscurity in expression, have purposely been avoided as much as possible; (though sometimes the nature of the subject has forced us to deviate from our intended plan:) For indeed we are more desirous of being intelligible to the meanest capacity, than ambitious of writing in a polish'd style, to which we make no pretensions; and on this account we expect some indulgence from the candid reader.

THE receipts it is hoped, will not be thought too numerous, as their preference to each other is generally pointed out; and as the ingredients of some may not always be procurable, it was therefore thought necessary to substitute others in their stead. Besides, the difficulty that occurs in adjusting the quantities and qualities of various drugs, though a thing familiar and easy enough to one acquainted with medicine, would have greatly embarrassed the gentleman student. Should some of them be thought too expensive, we desire it may be remembered, that as we have studied to cure in the shortest method, perhaps there may be little reason for complaint in the event, especially when the expence of the dearest of them is compared with a farrier's bill: Though we have seldom directed any of this sort, without giving the common cheap forms with them; and
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left the alternative to the circumstance of the reader, and the value of his horse.

WE beg leave however to observe, that the writers on the diseases of horses, are often too sanguine in the virtues they ascribe to particular medicines, and drugs; and too warm in the assertions of their particular success, in their practice and experience. But how are we often disappointed, when we come to compare these observations with our own experience! nor is this so much to be wondered at, when we reflect that no man by his own practice, can acquire a sufficient knowledge of the virtues, of one tenth part of the simples in use, so that of consequence, writers must copy from one another, and report to us many things on tradition.

WHOEVER is at all acquainted with the power of drugs, even from his own experience, knows how extremely difficult it is to ascertain their medicinal properties; as the same individual medicine, has different effects, not only in different constitutions, and in different diseases, but also in different stages of the same disease. In short, there are so many circumstances, to which we either do not, or perhaps cannot sufficiently attend, which vary their operation and effects, that we are frequently disappointed in our expectations, even of those medicines with which we are best acquainted.

THESE ingenuous hints I thought extremely necessary, in order to convince gentlemen of the great uncertainty of medicine in general; to the end, that they may not be imposed on by the superficial reasonings of farriers in general, who on every occasion are but too ready to poach their horses with some unmeaning drench or other; nor depend too much

much themselves on every receipt with a *probatum est* ; for if nature or change removes the disorder, the good effects are but too often attributed to the medicine ; and if the cause be thereby aggravated, 'tis then ascribed to the malignity of the disease. In truth, nothing is so difficult to ascertain, as the true virtue of medicines, and our fondness for many of them, but too often rises in proportion to our credulity, ignorance, or prejudices : for in our first studies, we have little experience of our own, and must therefore rely on the authorities of others ; and before we have gone through the several branches of science we have usually swallowed so many creeds implicitly that 'tis perhaps with difficulty, (so deeply rooted are our prejudices, we ever get the better of them, and far the greater part perhaps are misled for life. If then the professors of medicine, whose lives are devoted to the study of the art, are liable to these deviations, and incertitudes, how much more must the gentleman be imposed on, who depends on the authority of a favourite author, or a traditionary receipt, without being at all acquainted with the uncertain operation of drugs in general, or the disease in cure ; for this we may venture to affirm, that the effects of medicine, rather take their force from a proper judgment, in the due application of them, than from any constant and inherent virtue of their own ; and that 'tis the judicious timing, and adapting the medicine to the circumstance of the disease, that constitutes it either a beneficial remedy, or a destructive poison.

THESE observations 'tis hoped will be of some use to gentlemen ; and serve to convince them that neither themselves or horses, need on every slight occasion, be cram'd with medicine ; but that abstinence, and proper nursing, will in many cases, be the best remedy ; as they will give nature and the constitution sufficient opportunities,

portunities, to relieve themselves, and of course avail more than the loathsome doses, that are so constantly given, with so little judgment, and less success.

THE chapters on *Glanders* and *Nicking*, with the Plates and Explanations annexed, it is hoped, will prove both useful and entertaining; though we have been informed, that the operation of *Trepanning Glander'd Horses*, was attempted in *England*, many years before *M. La Fosse's* book was published; and probably was discontinued, for want of a thorough knowledge of the parts affected in this disease, or from unsuccessful trials made on horses, that might be in the last stages of this distemper, and of course from the nature of them, incurable; but the strong probability of success, in most cases, it is hoped will now be a sufficient inducement to follow the method here laid down, till further experience can recommend a better; and be also a farther incentive to our industry in bringing to perfection, the cure of a disease the most nauseous, and dangerous to our horses, and that hitherto has been a reproach to the art of farriery.

THE chapters on *Alteratives* and *Humours*, we hope will be attended to, and particularly the use of nitre so strongly recommended therein, by which means 'tis possible the too frequent use of strong purges, may in time be discarded; for we doubt not when gentlemen are once convinced of the nature and power of alteratives, and guarded against the absurd notions of our farriers, in relation to humours, the preference will be given to the alteratives, and a practice established as innocent and successful, as that of purging is dangerous and uncertain.

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T H E

Gentleman's Farriery, &c.

C H A P. I.

Some General Directions in regard to Horses.

LET it be laid down as a general rule, Medicines to give horses as few *medicines* as possible; and by no means comply with proper to the ridiculous custom of some, who are frequently *Bleeding, Purging, and giving Balls,* though their horses are in perfect health, and have no one indication that requires such treatment.

Proper management in their *Feeding, Exercise, and Dressing,* will alone cure many disorders, and prevent most; for the simplicity of a horse's diet, which chiefly consists of grain and herbage, when good in kind, and dispensed with judgment, secures him from those complicated disorders, which are the general effects of intemperance in the human body.

In *France, Germany, and Denmark,* horses are seldom purged; they depend there much on *Alteratives:* the use of the liver of antimony, we have from the *French,* which is in general a good medicine for that purpose, and may, in many cases, often be substituted in the room of purging.

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The best hay should be procur-
ed. As *Hay* is so material an article in a horse's diet, great care should be taken to procure the best: when it is not extraordinary, the dust should be well shook out, before it is put in the rack; for such hay is very apt to breed vermin.

Beans afford the strongest nourishment of all grain, but are fittest for laborious horses; except on particular occasions.

Cautions in the use of bran. *Bran* scalded is a kind of *Panada* to a sick horse; but nothing is worse than a too frequent use of it, either dry or scalded; for it relaxes, and weakens the bowels too much. The bots in young horses may be owing to too much musty bran and chaff, given with other foul feed to make them up for sale: particular care therefore should be taken that the bran be always sweet and new.

Oats the best diet for *English* horses. *Oats*, well ripened, make a more hearty and durable diet than *Barley*, and are much better suited to the constitutions of *English* horses, as appears by experience. A proper quantity of cut straw and hay mixed with them, is sometimes very useful to horses troubled with bots, indigestion, &c.

Observation. Horses who eat their litter, should particularly have cut straw and powdered chalk given them with their feed, as it is a sign of a depraved stomach which wants correcting.

The good properties of salt-marshes. The *Salt-Marshes* are good pasture, remarkably so for horses who have been surfeited; and indeed for many other disorders: they purge more by dung and urine than any other pasture, and make afterwards a firmer flesh: Their water is for the most part brackish, and of course, as well as the grass, saturated with salts from the sea-water.

The

The great advantages that arise from Sea-Water drinking *Sea-Water*, so much recommended for its Use. (among us) of late; may have taken the hint, from the good effects it was observed to produce, in obstinate chronical cases, on morbid horses; who are as frequently sent to the marshes, when all other means are despaired on, as consumptive people are to *Bristol*, and as often recovered beyond expectation.

A summer's grass is often necessary; more particularly to horses glutted with food, and ten necessary who use little exercise, but a month or two's sary. running is proper for most; those especially who have been worked hard, and have stiff limbs, swell'd legs, or wind-galls. Horses, whose feet have been impaired by quitters, bad shoeing, or any other accidents, are also best repaired at grass.

The *Fields* which lie near great towns, and Cautions are much dunged, are not proper pasture for with re-horses; but on observation appear very injurious to ous to them, if they feed thereon all the summer. sum-pasture.

Horses may be kept abroad all the year, Most horses where they have a proper stable or shed, to shelter them from the weather, and hay at all be best at times to come to. So treated, they are seldom sick, their limbs always clean and dry; the year. and with the allowance of corn will *bunt*, and do more business than horses kept constantly at house.

If, when horses are taken up from grass, Horses they should grow hot and costive, mix bran taken up and chopt hay with their corn; and give them from sometimes a feed of scalded bran for a fortnight, or longer: let their exercise and diet managed. be moderate for some time, and both increased by degrees.

Antimonials and alteratives sometimes necessary. Equal Quantities of antimony and sulphur, are sometimes given in their corn or mashees, to sweeten the blood, and keep the body open. The liver of antimony is frequently directed for this purpose, to the quantity of half an ounce at a time; but it is thought by some to succeed best, after the blood has been gradually warmed and fused by the above, or with antimony and gum guaiacum, previously taken for ten or twelve days.

But should be finely powdered. These antimonials should not be given grossly powdered, as is generally practised, but ground very fine; otherwise little of them will pass into the blood, but will sometimes, when given in large doses, scour themselves off without entering at all.

What herbage the fittest for foiling. When horses are *foiled* in the stable, care should be taken that the herbage is young, tender, and full of sap; whether it be green barley, tares, clover, or any thing else the season produces, and that it be cut fresh once every day at least, if not oftner: for, when herbage is old and fibrous, it is divested of the sap, has a tendency to putrefaction, and frequently causes obstructions in the bowels; which are sometimes of bad consequence, unless an evacuation is procured, when the dung has often appeared not unlike what has laid a considerable time, mellowing and rotting on a dunghill.

Cautions in foiling. When horses lose their flesh much in foiling, they should in time be taken to a more solid diet; for it is not in foiling, as in grazing; where, though a horse loses his flesh at first, yet after the grass has purged him, he soon grows fat.

Horses should be No general directions can be laid down for the feeding of horses, but this; that all horses who

who constantly work, should be well fed; o-fed in proportion to their *ex*-portion to *ercise*, and not kept to certain regular feeds, their work, whether they work or not.

Young horses who have not done growing, How to must be indulged more in their feeding, than prevent those come to their maturity; but if their *ex*-their crib-ercise is so little, as to make it necessary to biting. abridge their allowance of hay, a little fresh straw should constantly be put in their racks, to prevent their nibbling the manger, and turning crib biters: they should also sometimes be strapped back in order to cure them of this habit.

A due degree of *exercise* is of the utmost Exercise consequence to maintain a horse in perfect recom-health and vigour. But let it be observed, mended. that a horse is never to be rode hard, or put on any violent exercise, when he has a belly-full of meat or water: move him gently at first, and he will naturally mend his pace.

It is obvious to every one, what care should be taken of a horse after violent exercise, that he cools not too fast, and drinks no cold water, &c. for which reason we shall wave particular directions.

The usual method of feeding coach-horses Bran and on the road, by giving them bran with a few beans, beans before their oats, is not amiss; because when pro-their work makes them perspire so much, that per-without something of this kind, they would be faint, or apt to grow costive. The *bran* keeps their body open, and the *beans* prevent its scouring, which horses of weak bowels are subject to on a journey.

Most horses fed for sale, have the interstices Horses of their muscles, so filled with fat, that their newly true shapes are hardly known. For which brought reason, from the

dealers, reason, a horse just come out of the dealer's hands, should at first be gently used. He ought to lose blood, and have his diet lowered, though not too much: walking exercise is most proper at first, two hours in the day; in a week or fortnight, two hours at a time, twice a day: after this usage for a month, bleed him again, and give him two or three times a week scalded bran, which will prepare him for purging physick, that may now be given safely, and repeated at the usual intervals.

Observation. When a horse comes out of a dealer's hands, his cloathing must be abated by degrees; and care taken to put him in a moderately warm stable: otherwise the sudden transition would be attended with the worst consequences.

C H A P. II.

Some General Directions in regard to Bleeding, Purging, &c.

Directions concerning bleeding. **H**ORSES who stand much in stable, and are full fed, require bleeding now and then, especially when their eyes look heavy, dull, red, and inflamed; as also, when they feel hotter than usual, and mangle their hay.

Young horses should be bled when they are shedding their teeth, as it takes off those feverish heats, they are subject to at those times.

But the cases that chiefly require bleeding, are colds, fevers of most kinds, falls, bruises, hurts of the eyes, strains, and all inflammatory disorders, &c.

It

It is right to bleed a horse, when he begins to grow fleshy at grass, or at any other time when he looks heavy: and it is generally proper to bleed before purging.

Let your horse always be bled by measure, To bleed that you may know what quantity you take always by away: two or three quarts is always enough measure. at one time; when you repeat it, allow for the disorder, and the horse's constitution.

Let the blood when cold, be carefully examined, both as to colour and consistence, whether black, florid, sizey, &c.

Purging is often necessary in gross full Cautions horses, in some disorders of the stomach, li-concern-ver, &c. but should be directed with caution. ing purg-

Let it be remembered, that a horse is ing. purged with difficulty; that the physick generally lies twenty-four hours in the guts before it works; and, that the tract of bowels it has to pass through, is above thirty yards, and lying horizontally, consequently resinous and other improper drugs may, and often do, by their violent irritations, occasion excessive gripings and cold sweats, shave off the very mucus or lining of the guts, and bring on inflammations, which often terminate in mortifications.

'Tis remarkable too, that the stomach and Observa-guts of a horse are but thin, compared to tion. some other animals of the same bulk, and therefore must be more liable to inflamma-tion and irritation.

Horses kept much in the stable, who have Purges not the proper benefit of air and exercise, in when proportion to their food, should in *Spring* have per. a mild purge or two, after a previous preparation by bleeding, lowering their diet, and scalded mashes.

Cases that require it most. Horses that fall off their stomach, whether it proceeds from too full feeding, or ingendering crudities and indigested matter, should have a mild purge or two.

Horses of a hot temperament, will not bear the common aloetic purges; their physick therefore should be mild and cooling.

Purging is always found very beneficial in stubborn dry coughs; but mild mercurials joined with them, make them yet more efficacious.

Horses that have those sorts of lamenesses, that are said to proceed from *humours* flying about (which are of the *rheumatic* kind,) and in young horses proceed from sily blood, and occasion lameness in every limb; require frequent purging; and should also have, between whiles, medicines that attenuate and thin the fluids.

Horses of a watry constitution, who are subject to swell'd legs, that run a sharp briny ichor, cannot have the causes removed any ways so effectually as by purging.

The first purge you give to a horse should be mild, in order to know his constitution.

Some mistakes concerning purges. It is a mistaken notion, that if a properly prepared purge does not work to expectation, the horse will be injured by it; for though it does not pass by stool, its operation may be more efficacious, as an alterative to purify the blood, and it may pass by urine, or other secretions.

Purging medicines are very successfully given in small quantities, mixed with others; and act then as alteratives.

If mercurial physick is given, care should be taken that it be well prepared; and warmer

mer cloathing, and greater circumspection is then required.

Purges should be given early in the morn- The man-
ing upon an empty stomach; about three or ner of giv-
four hours after the horse has taken it, he ing purges
should have a feed of scalded bran; and a and work-
lock or two of hay may then be put in his ing off.
rack. The same day give him two more
mashes; but should he refuse warm meat, he
may be allowed raw bran.

All his water should be milk warm, and
have a handful of bran squeezed in it; but if
he refuses to drink white water, give it him
without bran.

Early the next morning, give him another
mash; but if he refuses to eat it, give him as
much warm water as he will drink: let him
be properly cloathed, and rode gently about.
This should be done two or three times a
day, unless he purges violently, once or
twice, will then be sufficient: at night give
him a feed of oats mixed with bran.

During the working, a horse should drink
plentifully; but, if he will not drink warm
water, he must be indulged with cold, rather
than not drink at all.

We shall here insert some general forms
of purges,

TAKE succotrine aloes ten drams, jalap
and salt of tartar each two drams, grated
ginger one dram, oil of cloves thirty
drops; make them into a ball with sy-
rup of buckthorn.

Or,

TAKE aloes and cream of tartar each one
ounce, jalap two drams, cloves powder-

B 5

ed

Directions in regard to

ed one dram, syrup of buckthorn a sufficient quantity.

Or,

The following, which has an established character among sportsmen.

TAKE aloes, from ten drams to an ounce and a half, myrrh and ginger powdered each half an ounce, saffron and oil of anniseed each half a dram.

Half an ounce of *Castile* soap, to a horse of a gross constitution, may be added to any of the above; and the proportions may be increased for strong horses.

When mercurial physick is intended, give two drams of calomel over night, mixed up with half an ounce of diapente and a little honey, and the purging ball the next morning.

The following when it can be afforded, is a very gentle and effectual purge, particularly for fine delicate horses; and if prepared with the Indian rhubarb, will not be expensive.

A mild
purge.

TAKE of the finest succotrine aloes one ounce, rhubarb powdered half an ounce or six drams, ginger grated one dram; make into a ball, with syrup of roses.

The following purging drink may be given with the utmost safety; it may be quicken'd, or made stronger, by adding an ounce more sena, or two drams of jalap.

A cooling
purging
drink.

TAKE sena two ounces, infuse in a pint of boiling water two hours with three drams

Bleeding, Purging, &c.

11

drams of salt of tartar; pour off, and dissolve in it four ounces of glauber salts, and two or three of cream of tartar.

This last physick is cooling, easy, and quick in its operation; and greatly preferable in all inflammatory cases to any other purge, as it passes into the blood, and operates also by urine.

When horses lose their appetites after Remedies purging, it is necessary to give a warm sto- for over-mach drink, made of an infusion of camo- purging. mile flowers, anniseeds, and saffron: or the cordial ball may be given for that purpose.

Should the purging continue too long, give an ounce of diascordium in a pint of Port wine, and repeat it once in twelve hours, if the purging continues. Plenty of gum arabic water should also be given, and in case of violent gripes, fat broth glysters, or tripe liquor, should be often thrown up, with from fifty to an hundred drops of laudanum in each.

When a purge does not work, but makes When a the horse swell, and refuse his food and wa- horse ter; which is sometimes the effect of bad swells. drugs, or catching cold: warm diureticks are the only remedy; of which the following are recommended.

TAKE a pint of white wine, nitre one A diuretic ounce, mix with it a dram of camphor drink. dissolved in a little rectified spirit of wine; then add two drams of oil of juniper, and the same quantity of unrectified oil of amber, and four ounces of honey, or syrup of marshmallows.

Or,

Or,

A diuretic
ball.

TAKE venice turpentine one ounce, incorporate with the yolk of an egg; nitre one ounce, then add juniper berries, and fresh anniseeds pounded, each half an ounce, unrectified oil of amber two drams; make into a ball with syrup of marshmallows.

When a horse swells much with physick, do not suffer him to be rode about till he has some vent, but rather lead him gently in hand, till some evacuation is obtained.

Horses
drinks to
be made
palatable.

As it is observed, that horses more willingly take sweet and palatable things, than those that are bitter and of an ill taste; care should be taken that the latter are given in balls: and that their drinks are always contrived to be as little nauseous as possible, and sweetened either with honey or liquorice. Those that are prepared with gross powders, are by no means so agreeable to a horse, as those made by infusion; as the former often clam the mouth, irritate the membranes about the palate and throat, and frequently occasion the cough they are intended to prevent.

Horses
balls
should not
be too
large.

Balls should be of an oval shape, and not exceed the size of a pullet's egg; when the dose is larger, it should be divided into two; and they should be dipt in oil, to make them slip down the easier.

As we have given some general forms of purges, we shall observe the same rule in regard to glysters, with some few cautions and remarks.

Horses
should be
raked be-
fore their
glysters.

Let it be observed then, that before the administering emollient glysters in costive disorders, a small hand well oiled should be passed

passed up the horse's fundament, in order to bring away any hardened dung, which otherwise would be an obstacle to the glyster's passage.

A bag and pipe of a proper form, is to be A pipe and preferred to a syringe, which throws up the bag pre-glyster with so much force, that it often sur-ferable to prizes a horse, and makes him reject it, as a syringe. fast as it goes in: whereas the liquor, when pressed gently from the bag, gives him no surprize or uneasiness, but passes easily up into the bowels, where it will sometimes remain a long time, and be extreamly useful, by cooling and relaxing them; and will sometimes incorporate so with the dung, as not easily to be distinguished from the other contents of the guts. These emollient sort of glysters are extreamly serviceable in most fevers, and greatly preferable to purging ones; which in general are too pungent, and stimulate too much, especially if aloes are a part of the composition.

Nutritive glysters are very necessary, and Nutritive often save a horse from starving, when his glysters. jaws are so locked up by convulsions, that nothing can be conveyed by the mouth.

They should not exceed a quart or three pints at a time, but be often repeated: nor should they be too fat; but made of sheeps heads, trotters, or any other meat broths; milk potage, rice-milk strained, and many other such nourishing things; for an emollient glyster take the following.

TAKE marshmallows and camomile An emol-
flowers each a large handful, bay-ber-lient glyf-
ries and sweet fennel-seeds bruised, each ter.
an ounce; boil in a gallon of water to
three

Directions in regard to Bleeding, &c.

three quarts, pour off into a pan, and dissolve in it half a pound of treacle, and a pint of linseed oil, or any common oil.

To make it more laxative, add four ounces of lenitive electuary, or the same quantity of cream of tartar, or common purging salts.

A purging
glyster.

TAKE two or three handfuls of marsh-mallows, fena one ounce, bitter apple half an ounce, bay-berries and anniseed bruised, each an ounce, salt of tartar half an ounce; boil a quarter of an hour in three quarts of water, pour off, and add four ounces of syrup of buckthorn, and half a pint of oil.

This glyster will purge a horse pretty briskly; and may be given successfully, when an immediate discharge is wanting; especially in some fevers with inflamed lungs, or other disorders, which require speedy relief.

Observa-
tion.

But the generality of emollient glysters, may be prepared with much less trouble: as two quarts of water gruel, with half a pound of treacle, a pint of oil, and a handful of common salt, will as effectually answer every purpose. The following is a restringent glyster.

A restrin-
gent glyf-
ter.

TAKE pomegranate bark, or oak bark two ounces, red rose leaves, fresh or dry, a handful, balaustines an ounce; boil in two quarts of water, till one is near consumed; pour off and dissolve in it four ounces of diascordium; to which may be added a pint of Port wine.

This

This will answer in all common cases, where restringents are necessary, but should never be given in larger quantities; for the longer glysters of this kind lie in the bowels, the more efficacious they are.

CHAP. III.

Of COLDS.

AS the source of the generality of fevers, Colds are coughs, and many other disorders, that the first both men and horses are subject to, arise originally from taking cold; I have made that disorder the subject of my first chapter, as introductory to the subsequent ones, on *Fevers, Pleurisy, Coughs, &c.*

The doctrine of perspiration (which I wish Perspiration in general better understood, because it is so tion what principally concerned in most acute disorders) is now so evidently demonstrable, that I am almost tempted to explain it, so far at least, as would give my readers a general idea thereof, and of the consequence of its suppression, or being checked: but, as it would be breaking through the limits I have prescribed myself, I must desire they would have recourse, for further satisfaction on that head, to *Chambers's Dictionary, Art. Perspiration.*

By taking cold then, we mean that the Taking pores and outlets of the skin (which in a natural healthy state of body, are continually breathing out a fine fluid, like the steam arising from hot water, or smoak from fire) are so far shut up, that these steams, or perspirable matter, not having a free passage through them, are hindered from going off in the usual

sual manner; the consequence of which is, their recoiling on the blood, vitiating its quality, overfilling the vessels, and affecting the head, glands or kernels of the neck and throat, the lungs, and other principal parts.

The
causes.

To enumerate the various causes of colds, would be endless: the most usual are, riding horses till they are hot, and suffering them to stand in that condition, where the air is cold and piercing; removing a horse from a hot stable to a cold one, and too suddenly changing his cloathing: hence it is, that horses often catch such severe colds, after they come out of dealers hands; and by not being carefully rubbed down when they come in hot off journies.

The symp-
toms.

The signs of a horse's catching cold, are a cough, heaviness and dullness, which affect him, more or less, in proportion to the severity of it: the eyes are sometimes moist and watery, the kernels about the ears and under the jaws swell, the nose gleets, and he rattles in his breathing; and when the cold is violent, the horse will be feverish, his flanks work, and he will both loath his hot meat, and refuse his water. When these last symptoms are attended with a slimy mouth, ears and feet cold, and a great inward soreness, there is danger of a bad fever.

Good
symptoms.

But when the horse coughs strong, snorts after it, is but little off his stomach, pricks up his ears, and moves briskly in his stall, dungs and stales freely, his skin feels kindly, and his coat does not stare, he is in no danger, and there will be no occasion for medicines of any kind; but you should bleed him about two quarts, keep him warm, and give him feeds of scalded bran, with as much warm
water

water as he will drink, in order to dilute his blood.

If the disorder should increase, the horse ^{The cure.} feel hot, and refuse his meat, bleed him, if a strong one, two quarts more; and if you are not satisfied, without giving medicines, avoid as you would a poison, a farrier's drench; (which is generally composed of some hot, nauseous powders, given in a quantity of ale; which too often increases the fever, by overheating the blood, and palls the horse's stomach by its loathsomeness.) And instead of it, infuse two ounces of anniseeds; with a dram of saffron, in a pint and a half of boiling water; pour off the clear and dissolve in it four ounces of honey; to which may be added four spoonfuls of sallad oil: this drink may be given every night; or one of the following balls, provided there is no fever; in which case, it always will be more eligible to give two, or three ounces of nitre, or salt prunella every day in his feeds, or water, till it is removed: this method of treating colds we have explained, in our animadversions on nitre, and the great efficacy of this medicine; but should the horse be inclined to costiveness, remember that his body should be kept open by emollient glysters, or cream of tartar dissolved in his water, to the quantity of three or four ounces a day.

TAKE of the fresh powders of anniseed, The pe-
 elicampane, carraway, liquorice, tur- toral horse
 merick, and flower of brimstone, each ball.
 three ounces; juice of liquorice four
 ounces, dissolved in a sufficient quantity
 of mountain, saffron powdered half an
 ounce, sallad oil and honey each half a
 pound,

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pound, oil of anniseed one ounce: mix together with wheat-flower enough to make them into a paste.

Or, Take the following from Dr. BRACKEN.

The cordial ball.

TAKE anniseed, carraway seed, and greater cardamoms, finely powdered, of each an ounce, flower of brimstone two ounces, turmerick in fine powder, one ounce and a half, saffron two drams. Spanish juice dissolved in water, two ounces, oil of anniseed half an ounce, liquorice-powder one ounce and a half; wheat-flower, a sufficient quantity, to make into a stiff paste, by beating all the ingredients well in a mortar.

Observations on it.

These balls consist of warm opening ingredients; and, given in small quantities, about the size of a pullet's egg, will encourage a free perspiration; but in case of a fever, should be cautiously continued. They are much more efficacious, and in all cases superior to the farriers drenches, if dissolved in a pint of warm ale.

General observations.

This simple method, with good nursing and hot mashes, warm water and cloathing, especially about the head and throat, which promotes the running at the nostrils, will answer in most sudden colds; and when the horse feeds heartily, and snorts after coughing, moderate exercise every day will hasten his recovery.

Particular ones.

The scalded bran should be put hot into the manger, for the steams conduce not a little, to promote the running, which is often very

very plentiful, and greatly forwards the cure. His manger should be kept clean, by filling with straw; his hay well shook and sprinkled with water, and given in small quantities: for his breathing, at this time, taints the hay, and then he will not touch it.

To a horse loaded with flesh, a rowel may sometimes be necessary, as may also a gentle purge or two, to some, when the distemper is gone off.

CHAP. IV.

Of FEVERS in General.

AS I purposely avoid giving descriptions of diseases, or so much as guessing at the causes within, which bring them about, I shall immediately enter upon the symptoms which denote a simple fever present. These The symptoms are great restlessness, the horse ranging from toms of a one end of his rack to the other; his flanks beat; his eyes are red and inflamed; his tongue parched and dry; his breath is hot, and smells strong; he loses his appetite, and nibbles his hay, but don't chew it, and is frequently smelling to the ground; the whole body is hotter than ordinary (though not parched, as in some inflammatory disorders;) he dungs often, little at a time, usually hard, and in small bits; he sometimes stales with difficulty, and his urine is high coloured; his flanks beat, and he seems to thirst, but drinks little at a time, and often; his pulse beats full and hard, to fifty strokes and upwards in a minute.

The

The first intention of cure is bleeding, to the quantity of two or three quarts, if the horse is strong, and in good condition; then give him a pint of the following drink four times a day; or an ounce of nitre, mixed up into a ball with honey, may be given thrice a day, instead of the drink, and washed down with three or four horns of any small liquor.

The fever
balls and
drink.

TAKE of baum, sage, and camomile flowers each a handful, liquorice-root sliced half an ounce, sal prunel, or nitre, three ounces; infuse in two quarts of boiling water, when almost cold strain off, and squeeze into it the juice of two or three lemons, and sweeten with honey.

A remark. As the chief ingredient to be depended on in this drink is the nitre; it may perhaps be as well given in water alone; but as a horse's stomach is soon palled, and he requires palatable medicines, the other ingredients may in that respect have their use. *Soleysel* for this purpose advises two ounces of salt of tartar, and one of sal armoniac to be dissolved in two quarts of water, and mix'd with a pail of common water; adding a handful of bran or barley flower to qualify the unpleasant taste: this may be given every day, and is no bad medicine.

The diet
in fevers.

His diet should be scalded bran, given in small quantities; which, if he refuses, let him have dry bran sprinkled with water: put a handful of pick'd hay into the rack, which a horse will often eat, when he will touch nothing else: his water need not be much warmed, but should be given often, and in small

small quantities: his cloathing should be moderate, too much heat and weight on a horse being improper in a fever; which scarce ever goes off in critical sweats, (as those in the human body terminate) but by strong perspiration.

If, in a day or two he begins to eat his bran, and pick a little hay, this method with good nursing will answer: but if he refuses to feed, more blood should be taken away, and the drinks continued; to which may be added two or three drams of saffron, avoiding at this time all hotter medicines; the following glyster should be given, which may be repeated every day, especially if his dung is knotty and dry.

TAKE two handfuls of marshmallows, and Theemolone of camomile flowers; fennel seed lient glyster an ounce; boil in three quarts of water ter. to two, strain off, and add four ounces of treacle, and a pint of linseed oil, or any common oil.

Two quarts of water-gruel, fat broth, or Remarks. pot-liquor, with the treacle and oil, will answer this purpose; to which may be added a handful of salt. These sort of glysters are properer than those with purging ingredients.

The following opening drink is very effectual in these fevers, and may be given every other day, when the glysters should be omitted; but the nitre-balls or drink may be continued, except on those days these are taken.

TAKE of cream of tartar four ounces, An opening fever
Glauber salts two ounces; dissolve in drink.
barley-water, or any other liquor.
Four

Four ounces of Glauber salts, or cream of tartar, with the same quantity of lenitive electuary, may be given for the same purpose, if the former should not open the body sufficiently.

The signs of recovery. In four or five days the horse generally begins to pick his hay, and has a seeming relish to food; though his flanks will heave pretty much for a fortnight: yet the temper of his body, and return of appetite, shew that nothing more is requisite to compleat his recovery, than walking him abroad in the air, and allowing plenty of clean litter to rest him in the stable.

Practical observations. This method of treating a fever is simple, according to the laws of nature; and is confirmed by long experience, to be infinitely preferable to the hot method.

The intention here is to lessen the quantity of blood, promote the secretion of urine and perspiration, and cool and dilute the fluids in general.

How far vinous cordials, strong beer-drinks loaded with fiery powders, and such methods are likely to answer these purposes, is submitted to the judicious observer; as also, whether adopting the cool one in its stead is not as real an improvement in farriery as physick.

A compound fever. There is another sort of fever that horses are subject to of a more complicate and irregular nature than the former; which, if not properly treated, often proves fatal.

The symptoms. The signs are a slow fever with languishing, and great depressions; the horse is sometimes inwardly hot, and outwardly cold; at other times hot all over, but not to any extreme; his eyes look moist and languid; he has

has a continual moisture in his mouth, which is the reason he seldom cares to drink, and then he does but little at a time. He feeds but little, and leaves off as soon as he has eat a mouthful or two; his body is commonly open; his dung soft and moist, but seldom greasy; his staling is often irregular, sometimes little, at other times profuse, seldom high coloured, but rather pale, with little or no sediment.

When a horse's appetite declines daily, till he refuses all meat, it is a bad sign. When the fever doth not diminish, or keep at a stand, but increases, the case is then dangerous. But when it sensibly abates, and his mouth grows drier, the grating of his teeth ceases, his appetite mends, and he takes to lay down (which perhaps he has not done for a fortnight) these are promising signs.

The various and irregular symptoms that attend this slow fever, require great skill to direct the cure, and more knowledge of the symptoms of horses diseases, than the generality of gentlemen are acquainted with. The experienced farrier should therefore be consulted and attended to, in regard to the symptoms; but very seldom as to the application of the remedy, which is generally above their comprehension; though it may be readily selected, by duly attending to the observations here inculcated.

First then, a moderate quantity of blood, not exceeding three pints, may be taken away, and repeated in proportion to his strength, fullness, inward soreness, cough, or any tendency to inflammation. After this, the fever-drink, p. 20, may be given, with the addition of an ounce of snake-root, and three

three drams of saffron and camphor, dissolved first in a little spirit of wine; the quantity of the nitre may be lessened, and these increased, as the symptoms indicate.

The diet.

The diet should be regular; no oats given, but scalded, or raw bran sprinkled; the best flavoured hay should be given by handfuls, and often by hand, as the horse sometimes cannot lift up his head to the rack.

[Dilution necessary.

As drinking is so absolutely necessary to dilute the blood, if the horse refuses to drink freely of warm water or gruel, he must be indulged with having the chill only taken off, by standing in the stable; nor will any inconvenience ensue, but oftner an advantage: for, the nauseous warmth of water, forced on horses for a time, palls their stomachs and takes away their appetites, which the cold water generally restores.

When the fever increases.

Should the fever after this treatment increase, the horse feed little, stale often, his urine being thin and pale, and his dung sometimes loose, and at other times hard, should the moisture in his mouth continue, his skin being sometimes dry, and at others moist, with his coat looking staring, and surfeited. Upon these irregular symptoms which denote great danger, give the following balls, or drink: for in these cases there is no time to be lost.

The compound fever balls.

TAKE of contrayerva-root, myrrh, and snake-root powdered, each two drams, saffron one dram, mithridate or Venice-treacle half an ounce, make into a ball with honey, which should be given twice or thrice a day, with two or three horns of an infusion of snake root, sweetened

sweetened with honey; to a pint and half of which may be added, half a pint of treacle water, or vinegar, which latter is a medicine of excellent use, in all kinds of inflammatory and putrid disorders, either external or internal.

Should these balls not prove successful, add to each a dram of camphor, and where it can be afforded, to a horse of value, the same quantity of castor. Or the following drink may be substituted in their stead for some days.

TAKE of contrayerva and snake-root, of each two ounces, liquorice-root sliced one ounce, saffron two drams; infuse in two quarts of boiling water close covered for two hours, strain off, and add half a pint of distilled vinegar, four ounces of spirit of wine, wherein half an ounce of camphor is dissolved, and two ounces of mithridate, or Venice treacle; give a pint of this drink, every four, six, or eight hours.

A more simple drink, and perhaps full as efficacious may be thus prepared.

TAKE Camphor one dram dissolved in rectified spirit of wine one ounce, then gradually pour on a pint of distilled vinegar warm'd and give for two doses. The quantity of camphor may be increased.

Should the horse be costive, recourse must be had to glysters, or the opening drink:
C should

should he purge, take care not to suppress it, if moderate; but if, by continuance, the horse grows feeble, add diascordium to his drinks, instead of the mithridate; if it increases give more potent remedies.

Observation.

Let it be remembered, that camphor is a very powerful and effectual medicine, in these kinds of horse fevers; being both active and attenuating, and particularly calculated to promote the secretions of urine and perspiration, it has been long celebrated in malignant fevers, as it gives motion to stagnant humours, in the most distant parts, and promotes their expulsion by the common outlets; nitre may be advantageously joined with it in many cases.

A horse should drink plentifully to promote the operation of these medicines; but instead of them, to a horse of small value, give an ounce of diapente, and half an ounce of mithridate, and one dram of camphor, with a strong infusion of rue, scordium and snake root, in the manner as above directed.

Symptoms to be regarded.

Regard should also be had to his staling; which, if in two great quantities, so as manifestly to depress his spirits, should be controuled by proper restringents, or by preparing his drinks with lime-water. If, on the contrary, it happens that he is too remiss this way, and stales so little as to occasion a fullness, and swelling of his body and legs, recourse may be had to the following drink:

A drink to promote urine.

TAKE of salt-prunella, or nitre, one ounce; juniper-berries, and Venice turpentine, of each half an ounce; make into a ball with oil of amber.

Give

Give him two or three of these balls, at proper intervals, with a decoction of marsh-mallows, sweetened with honey.

But if notwithstanding the method we have laid down, a greenish or redish gleet is dis- charged from his nostrils, with a frequent sneezing; if he continues to lose his flesh, and becomes hide bound; if he altogether forsakes his meat, and daily grows weaker; if he swells about the joints, and his eyes look fixed and dead: if the kernels under his jaws swell, and feel loose; if his tail is raised and quivers; if his breath smells strong, and a purging ensues with a discharge of foetid, dark coloured matter, his case may then be looked on as desperate, and all future attempts to save him will be fruitless.

The signs of a horse's recovery are known by his hide's keeping open, and his skin feeling kindly; his ears and feet will be of a moderate warmth, and his eyes brisk and lively; his appetite mends, he lays down well, and both stales and dungs regularly.

Be careful not to overfeed him on his recovery; let his diet be light, feeds small, and increased by degrees as he gets strength: for by overfeeding, horses have frequent relapses, or get surfeits which are always difficult of cure.

This is the most successful method of treating these irregular, malignant fevers; where it is evident, by the various efforts nature makes to relieve herself, she wants assistance, and a spur to quicken her motions. For by the use of these warm medicines a crisis, or termination of the disease is quickened and promoted, as appears by the alteration made both in the urine and skin; the former of which,

which, by its thickness, shews signs of concoction, as it is called, or of a separation of the feverish matter from the blood; and the latter by its smoothness and glossiness proves that a regular and free perspiration is obtained: these two secretions are of such importance to the welfare of every animal, that the necessity of rectifying them, when disordered, is obvious from the consequences.

The cure
of an in-
termitting
fever.

If this fever should be brought to intermit, or prove of the intermitting kind, immediately after the fit is over, give an ounce of Jesuit's bark, and repeat it every six hours, till the horse has taken four or six ounces; should eruptions or swellings appear, they ought to be encouraged, for they are good symptoms at the decline of a fever, denote a termination of the distemper, and that no further medicines are wanted.

Reasons
why so
many hor-
ses die in
fevers.

The true reasons perhaps why so many horses miscarry in fevers, are, that their masters, or doctors, will not wait with patience, and let nature have fair play: that they generally neglect bleeding sufficiently at first; and are constantly forcing down sugar sops, or other food in a horn, as if a horse must be starved in a few days, if he did not eat: then they ply him twice or thrice a day with hot medicines and spirituous drink, which (excepting a very few cases) must be extremely pernicious to a horse, whose diet is naturally simple, and whose stomach and blood, unaccustomed to such heating medicines, must be greatly injured, and without doubt are often inflamed by such treatment.

Of epide-
mic fe-
vers.

From the experience we lately had of the epidemic cold and fever among our horses, and from the observations of others in the years

years 1732 and 1734, it evidently appeared that the simplest method of treatment succeeded best. Thus it is proper to bleed largely at first, to the quantity of three quarts, if the horse is full and strong: and if it appears that his lungs are not relieved by it, but continue stuffed and loaded, the bleeding should be repeated; and a rowel may be put in his chest or belly.

Dilute the blood with plenty of water, or white drink; let his diet be warm bran mash, and his hay sprinkled. Should the fever rise, which will be known by the symptoms above described, give him an ounce of nitre thrice a day in his water, or made up in a ball with honey. Let his body be kept cool and open, with the opening drink, given twice or thrice a week; or an ounce of salt of tartar may be given every day, dissolved in his water, for that purpose, omitting then the nitre. After a week's treatment in this manner, the cordial ball may be given once or twice a day, with an infusion of liquorice root sweetened with honey; to which may be added, when the phlegm is tough, or cough dry and husky, a quarter of a pint of linseed, or salad oil, and the same quantity of oxymel squills.

As the kernels about the throat are greatly Necessary swelled in these cases, I need not mention cautions. the necessity of keeping the head and throat warmer than ordinary, to promote a freer perspiration, and forward the running at the nose, which in a horse answers the end of spitting, or expectoration in us: but the nose should never be syringed, as is sometimes done, to promote this discharge; which it often checks, and occasions bad swellings in

the neighbouring parts and glands: for let it be remembered these are critical runnings of nature's own appointment, which by art may soon be frustrated. The following cooling purge is very proper to give at the decline of the distemper, and may be repeated three or four times.

A cooling
purge.

TAKE two ounces of fena; anniseed and fennel bruised each half an ounce; salt of tartar three drams; let them infuse two hours in a pint of boiling water; strain off, and dissolve in it three ounces of Glauber salt, and two of cream of tartar: give for a dose in the morning.

This purge generally works before night very gently; and in fevers, and all inflammatory disorders, is infinitely preferable to any other physick.

Before we close this chapter on fevers, it may be no improper hint to the curious, to take notice that the horse's pulse should more particularly be attended to than is customary, as a proper estimate may thereby be made both of the degree and violence of the fever present, by observing the rapidity of the blood's motion, and the force that the heart and arteries labour with to propel it round.

The pulse
of horses
should be
attended
to.

The highest calculation that has been made of the quickness of the pulse in a healthy horse, is, that it beats about forty strokes in a minute; so that in proportion to the increase above this number, the fever is rising, and if farther increased to above fifty, the fever is very high.

How to
calculate
the pulse.

How often the pulse beats in a minute may easily be discovered by measuring the time with

with a stop-watch, or minute sand-glass, while your hand is laid on the horse's near side, or your fingers on any artery; those which run up on each side the neck, are generally to be seen beating as well as felt a little above the chest; and one within side each leg may be traced with the finger.

A due attention to the pulse is so important an article, in order to form a proper judgment in fevers, that it would appear amazing, if one did not recollect, that the generality of *farriers* are so egregiously ignorant that they have no manner of conception of the blood's circulation, nor in general have they ability enough to distinguish the difference between an artery and a vein.—With such pretty guardians do we intrust the healths and lives of the most valuable of animals!

For which reason I cannot too much inforce the necessity of this study and practice, as it is evident to every one with what scrupulous attention the human pulse is examined in every feverish stage, and how often the physician's judgment is chiefly directed by it: What discoveries therefore might not be made by accurate observations on the pulse of horses, both in regard to the quickness of the blood's motion, and to the hardness of the artery, from its difficult vibrations! It would be a sure guide to distinguish an inflammatory fever with dense fizy blood, from an irregular depressed one; it would direct us more certainly when, and how often we should repeat bleeding in fevers, and other disorders, and when we should draw off blood previous to purging; or refrain from the latter, till by lowering the horse's diet, his

constitution and blood is reduced to a proper temper; for in such as are replete and sanguine, without this caution, an inflammation of the bowels is soon brought on by the irritations such stimulating medicines produce on vessels too turgid, and many a horse's life has been sacrificed to this neglect, but more particularly fine, high fed ones. It would also be of use to discover whether a horse has recovered himself in due time, after having been drove hard, either on the chace, or race, &c. &c. This digression, it is hoped, will be more readily pardoned, as it is not a meer matter of speculation, but a practical remark.

CHAP. V.

Of a PLEURISY and Inflammation of the Lungs, &c.

Inflam-
tary dis-
orders are
frequent
in horses.

THESE disorders have scarce been mentioned by any writer in farriery before Mr. *Gibson*; who, by frequently examining the carcases of dead horses has found them subject to the different kinds of inflammations here described.

He has often discovered matter on the pleura (or membrane which lines the chest internally) making its way into the chest; he has found in some horses the whole substance of the lungs black, and full of a gangrened water; and in others abscesses of various sizes; and in short, inflammations in every bowel. In order to distinguish these disorders from others, we shall describe the symptoms in Mr. *Gibson*'s own words.

“ A pleu-

“ A pleurisy then, which is an inflammation of the pleura; and a peripneumony, which is an inflammation of the lungs; have symptoms very much alike; with this difference only, that in a pleurisy a horse shews great uneasiness, and shifts about from place to place; the fever which at first is moderate, rises suddenly very high; in the beginning he often strives to lie down, but starts up again immediately, and frequently turns his head towards the affected side, which has caused many to mistake a pleuritic disorder for this gripes, this sign being common to both, though with this difference:

In the gripes a horse frequently lies down, and rolls, and when they are violent, he will also have convulsive twitches, his eyes being turned up, and his limbs stretched out, as if he was dying; his ears and feet sometimes occasionally hot, and sometimes as cold as ice; he falls into profuse sweats, and then into cold damps, strives often to stale and dung, but with great pain and difficulty; which symptoms generally continue, till he has some relief: But in a pleurisy, a horse's ears and feet are always burning-hot, his mouth parched and dry, his pulse hard and quick; even sometimes when he is nigh dying, his fever is continued and increasing; and though in the beginning he makes many motions to lie down, yet afterwards he reins back as far as his collar will permit, and makes not the least offer to change his posture, but stands panting with short stops, and a disposition to cough, till he has relief, or drops down.

In an inflammation of the lungs, several of the symptoms are the same, only in the beginning he is less active, and never offers to

The signs of a pleurisy, and inflammation of the lungs.

How to distinguish them from the gripes.

lie down during the whole time of his sickness; his fever is strong, breathing difficult, and attended with a short cough; and whereas in a pleurisy, a horse's mouth is generally parched and dry, in an inflammation of the lungs, when a horse's mouth is open, a roapy slime will run out in abundance; he gleans also at the nose a reddish or yellowish water, which sticks like glue to the inside of his nostrils.

In a pleurisy, a horse heaves and works violently at his flanks, with great restlessness, and for the most part his belly is tucked up; but in an inflammation of the lungs, he always shews fullness, and the working of his flanks is regular, except after drinking and shifting his posture; and his ears and feet are for the most part cold, and often in damp sweats.

The cure
of a pleu-
risy, and
inflamed
lungs.

The cure of both these disorders is the same. In the beginning a strong horse may lose three quarts of blood, the next day two quarts more; and if symptoms do not abate, the bleedings must be repeated, a quart at a time; for it is speedy, large, and quick repeated bleedings that are in these cases chiefly to be depended on. But if a horse has had any previous weakness or is old you must bleed him in less quantities, and oftner. Mr. *Gibson* recommends rowels, one on each side the breast, and one on the belly: and a blistering ointment to be rubbed all over his brisket upon the foremost ribs.

The diet and medicines should be both cooling, attenuating, relaxing, and diluting; and the horse should have warm mashes, and plenty of water, or gruel. The following balls may be given thrice a day.

TAKE

T A K E of sperma-ceti and nitre, of each Pectoral one ounce ; oil of anniseed thirty drops ; balls. honey enough to make a ball.

A pint of barley-water in which figs and liquorice root have been boiled, should be given after each ball ; to which the juice of lemons may be added ; and if the lungs are greatly oppressed with a dry short cough, two or three horns full of the decoction may be given three or four times a day, with four spoonfuls of honey and linseed oil. A strong decoction of the rattle-snake-root is also much recommended in pleuritic disorders, and may be given to the quantity of two quarts a day, sweetened with honey. It remarkably attenuates the blood, and disperses the inflammation, and in some parts is deemed a specific for this complaint.

An emollient glyster should be injected ^{Glysters} once a day, to which may be added two ^{necessary.} ounces of nitre, or cream of tartar.

In two or three days he will probably run at the nose, and begin to feed ; but should he not, and continue hot and short-breathed, you must bleed him again, and give the following glyster.

T A K E fena and marshmallows, of each A purging two ounces ; fennel and bay-berries, glyster. each one ounce : boil in five pints of water to two quarts, pour off the clear, and add four ounces of purging salts, two or three of syrup of buckthorn, and half a pint of linseed, or any common oil.

If

TAKE

If by these means he grows cooler ; and his pain moderates, repeat the glyster the next day, unless it worked too much ; then intermit a day ; and when he comes to eat scalded bran and picked hay, leave off the balls, and continue only the decoction, with now and then a glyster.

Observation.

But let it be observed, that a horse seldom gets the better of these disorders, unless he has relief in a few days ; for if the inflammation is not checked in that time, it usually terminates in a gangrene, or collection of matter, which for want of expectoration, soon suffocates him.

The horse's diet and exercise should be well attended to.

But as pleuritic disorders are apt to leave a taint on the lungs, great care should be taken of the horse's exercise and feeding, which should be light and open for two or three weeks. Thus a quartern of bran scalded, with a spoonful of honey and flour of brimstone, may be given every day ; with two or three small feeds of oats, sprinkled with chamber-lye. Instead of the bran, for a change, give about a quart of barley scalded in a double infusion of hot water, that it may be softened, and the water given to drink. His exercise should be gradual, in an open air and fair weather ; and when his strength is recovered, a gentle purge or two should be given ; that of rhubarb, when it can be afforded, is best, or the purging drink already recommended for this purpose.

An external pleurisy.

There is also an external pleurisy or inflammation of the muscles between the ribs.

The signs.

The signs are a stiffness of the body, shoulders, and fore-legs ; sometimes with a short dry cough, and a shrinking when handled in those parts. When not well cured,
it

it lays the foundation of what is called a chest-founder.

Bleeding, soft pectorals, and gentle purges, The cure. are the internal remedies; and externally the parts affected may be bathed with equal parts of spirit of sal armoniac, and ointment of marshmallows, or oil of camomile.

These outward inflammations frequently fall into the inside of the foreleg, and sometimes near the shoulder; forming abscesses, which terminate the disorder.

The membrane which separates the lungs, The diaphragm, and more particularly the diaphragm, or phraghm midriff, is often also inflamed; which is and other scarce to be distinguished from the pleurisy, parts of only in this, that when the midriff is greatly the chest inflamed, the horse will sometimes be jaw-subject to set, and his mouth so much closed that no-inflammation. thing can be got in: but the method of cure is the same.

C H A P. VI.

Of a COUGH, and ASTHMA.

THE consequence often of the preceding disorders injudiciously treated are The causes of settled habitual coughs; which frequently de-a settled generate into asthmas, and broken-wind. cough.

Various are the causes assigned for this last disorder, which, as meerly conjectural, we shall wave; but the appearances on the dissection of broken-winded horses, will be taken notice of in the proper place.

Nothing has more perplexed practitioners Coughs to than the cure of settled coughs; the cause of be distin- which, perhaps, has been their want of at-guished. tion

tention to the different symptoms which distinguish one cough from another; for without strict observance thereof, it is impossible to find out the true method of cure.

Thus if a horse's cough is of long standing, attended with loss of appetite, wasting of flesh, and weakness, it denotes a consumption; and that the lungs are full of knotty, hard substances, called tubercles, which have often been discovered on dissection. *Vide Consumption.*

The following signs denote when the cough proceeds from phlegm, and slimy matter, that stuff up the vessels of the lungs.

The signs
of a moist
cough.

The horse's flanks have a sudden quick motion; he breathes thick, but not with his nostrils open, like a horse in a fever, or that is broken winded; his cough is sometimes dry and husky, sometimes moist, before which he wheezes, rattles in the throat, and sometimes throws out of his nose and mouth great gobs of white phlegm, especially after drinking, or when he begins or ends his exercise, which discharge commonly gives great relief. Some such horses wheeze and rattle to such a degree, and are so thick-winded, that they can scarce move on, till they have been out some time in the air; though then they will perform beyond expectation.

These are properly asthmatic cases, and ought to be distinguished in their symptoms from that purfiveness and thick windedness we see in some horses, occasioned by too full or foul feeding, want of due exercise, or their being taken up from winters grass. But these two last cases are easily cured by proper diet and exercise; in the one by lowering his keeping, and in the other by increasing it.

The

The above asthmatic case proves often very obstinate; but, if it happens to a young horse, and the cough is not of long standing, it is greatly relieved, if not totally cured, by the following method.

If the horse is full of flesh, bleed him plentifully; if low in flesh, more sparingly; which may occasionally be repeated, on very great oppressions, and difficulty of breathing, in proportionate quantities.

As mercurial medicines are found remarkably useful in these cases, give a mercurial ball (with two drams of calomel) over night, and a common purge the next morning: or the following, which is much recommended by Mr. *Gibson*.

T A K E gum-galbanum, ammoniacum, An altera-
and assa foetida, of each two drams; fine tive purge
aloes one ounce; saffron one dram; oil
of anniseeds two drams; oil of amber one
dram; with honey enough to form into
a ball.

They may be repeated at proper intervals, with the usual cautions. In the intermediate days, and for some time after, one of the following balls may be given every morning.

TAKE cinnabar of antimony, finely levi- Balls for
gated, six ounces; gum ammoniacum, an obsti-
galbanum, and assa foetida of each two nate
ounces; garlick four ounces; saffron cough.
half an ounce; make into a paste for
balls, with a proper quantity of honey.

These balls are extreamly well calculated for this purpose; but if they are thought too expensive, the cordial ball may be given, with
an

Of a COUGH, and

an eighth part of powder'd squills and Barbadoes tar; or equal quantities of the above, and cordial ball may be beat up together; and where they can be afforded, balsam of Peru, balsam of sulphur, and flowers of Benjamin, would undoubtedly, added to the cordial ball, make it a more efficacious medicine, in cases of this sort.

Exercise
and diet
particu-
larly re-
com-
mended.

Exercise in a free open air is very serviceable, and the diet should be moderate. Horses subject to any inward oppressions of the lungs, should never be suffered to have a belly-full; that is, they should never be permitted so to distend their stomach with meat or water, as to press against the midriff, which of course would hinder respiration. Their hay should even be abridged, given in small quantities, and sprinkled with water; and their usual allowance both of corn and water, should be divided into several portions: by such a regulation in diet, horses may be so recovered as to do great service; and in all disorders of the lungs it is what should principally be attended to.

The following are the symptoms of a dry cough, or asthma.

The signs
of a dry
cough, or
asthma.

The horse afflicted with this cough, eats heartily, hunts and goes through his business with alacrity, appears well coated, and has all the signs of perfect health; yet he shall cough at particular times almost incessantly, without throwing up any thing, except that the violence of the cough will cause a little clear water to distil from his nose. Though this cough is not periodical, yet some of these horses cough most in a morning after drinking.

This

This may properly be stiled a nervous asthma in a horse ; as probably it chiefly affects the nerves in the membranous parts of the lungs and midriff, and is a case very doubtful at least, if not incurable ; but when the horse is young the following method may be successful.

Take away first a moderate quantity of blood ; then give him two drams of calomel, mixed up with an ounce of diapente, for two nights ; and the next morning a purging ball. Keep him well cloathed and littered, and feed him with scalded bran and warm water.

Once in eight or ten days this purge may be repeated, with one mercurial ball only, given over-night.

The following balls may then be taken, one every day, about the size of a pullet's egg, the horse fasting two hours afterwards ; and should be continued two months or longer, to be of real service.

TAKE native cinnabar, or cinnabar of antimony, half a pound ; gum guaiacum four ounces ; myrrh, and gum ammoniac, of each two ounces ; Venice soap half a pound : the cinnabar must be finely levigated, as before observed, and the whole mixed up with honey, or oxymel squills.

The following also will be found a useful remedy in obstinate dry coughs.

TAKE gum ammoniacum, squills and Venice soap of each four ounces, balsam of sulphur with anniseeds one ounce, beat up into a mass, and give as the former.

These

Observation.

These mercurial and ponderous medicines are well adapted to open obstructions in the lungs, and prevent those little knots, or tubercles, which so frequently ulcerate, and lay the foundation of an incurable malady, or consumption; but the common pectorals alone will avail nothing in old stubborn coughs; their efficacy being lost in the long tour they have to make, before they come to the lungs; and indeed, were it otherwise, without they had such powerful openers joined with them, they would be of little consequence; for where there are any expectations from medicines, such are chiefly to be relied on, which have a power of dissolving and attenuating the viscid humours, opening the small obstructed vessels, and promoting all the natural secretions.

Before we close this chapter, it may be necessary to observe here that some young horses are subject to coughs on cutting their teeth, their eyes also are sometimes affected from the same cause. In these cases always bleed, and if the cough is obstinate, repeat it, and give warm mashes; which in general are alone sufficient to remove this complaint. But when the cough is an attendant on worms, as it often is in young horses, you must give such medicines as have a power to destroy those animals; particularly mercurial physick at proper intervals and intermediately half an ounce of *Æthiop's* mineral mixed up with the cordial or pectoral balls, may be given every day. *Vide* Ch. WORMS.

C H A P. VII.

Of a BROKEN-WIND.

THIS disorder hitherto seems to have The cause been little understood, but Mr. *Gibson* of broken- is inclined to think, that the source of it is wind. frequently owing to injudicious, or hasty, feeding young horses for sale; by which means the growth of the lungs, and all the contents within the chest are so increased, and in a few years so preternaturally enlarged, that the cavity of the chest is not capacious enough for them to expand themselves in, and perform their functions.

A narrow contracted chest with large lungs may sometimes naturally be the cause of this disorder: and it has been observed that horses rising eight years old, are as liable to this distemper, as at a certain period of life men fall into asthmas, consumptions, and other chronic diseases.

The reason why this disorder becomes more Why horses rising apparent at this age may be, that a horse comes to his full strength and maturity at this seven or time: at six he commonly finishes his growth eight, in height; after that time he lets down his grow belly and spreads, and all his parts are grown broken-winded. to their full extent; so that the pressure on the lungs and midriff is now more increased.

But how little weight soever these reasons may have, repeated dissections have given ocular proofs of a preter-natural largeness, not only of the lungs, of broken-winded horses, but of their heart, and its bag; and of the membrane which divides the chest; as well

well as of a remarkable thinness in the diaphragm, or midriff.

The parts affected in broken-winded horses. This disproportion has been observed to be so great, that the heart and lungs have been almost of twice their natural size, perfectly sound, and without any ulceration whatever; or any defect in the wind-pipe, or its glands.

Hence it appears that this enormous size of the lungs, and the space they occupy, by hindering the free action of the midriff, is the chief cause of this disorder; and as the substance of the lungs was found more fleshy than usual, they of course must lose a great deal of their spring or tone.

The difficulty in breathing accounted for. This fleshiness and size of the lungs may in a great measure be the cause, why the inspirations in broken-winded horses are disproportionately slow; for we may observe that they draw in their breath slowly, their flanks filling up, and rising with difficulty: but that their flanks fall suddenly, and their breath bursts forth with violence, both from the mouth and nostrils; insomuch that a man in the dark, by holding his hands on a horse's mouth and nose, may easily discover if he is broken-winded.

Broken-wind incurable. Whoever considers a broken wind in this light, must own that it may be reckoned among the incurable distempers of horses; and that all the boasted pretensions to cure are vain and frivolous, since the utmost skill can amount to no more than now and then palliating the symptoms, and mitigating their violence.

We shall therefore only lay down such methods as may probably prevent this disorder, when pursued in time. But if they should
not

not succeed, we shall offer some remedies and rules to mitigate its force, and to make a horse as useful as possible under this malady.

'Tis usual before a broken wind appears, The symp- for an horse to have a dry obstinate cough, toms without any visible sickness, or loss of appe- which tite ; but on the contrary a disposition to foul foretel a feeding, eating the litter, and drinking much broken- water. wind.

In order then to prevent, as much as possible, this disorder, bleed him, and give him the mercurial physic above prescribed, which should be repeated two or three times.

The following balls are then to be taken for some time, which have been found extremely efficacious in removing obstinate coughs.

T A K E aurum mosaicum, finely powder- Balls for a ed, eight ounces ; myrrh and elicam- broken- pane, powdered, each four ounces ; an- wind. niseeds and bay-berries, each an ounce ; saffron, half an ounce ; make into balls with oxymel squills.

The aurum mosaicum is made of equal parts of quicksilver, tin, sal armoniac, and sulphur. We give this medicine as strongly recommended by Mr. *Gibson* ; but how far the aurum mosaicum may contribute to its efficacy, may perhaps justly be disputed : as a substitute in its room therefore, for this purpose, we recommend the same quantity of powdered squills, or gum ammoniacum ; or equal parts of each ; for this end also the following is recommended.

TAKE

TAKE gum ammoniacum galbanum, and assa foetida of each two ounces; squills four ounces, cinabar of antimony six ounces, saffron half an ounce, make into a paste with honey. Give the size of a pullet's egg every morning.

The diet
for broken
winded
horses.

Garlick
recom-
mended.

Broken winded horses should eat sparingly of hay, which as well as their corn may be wetted with chamber lye, or fair water; as this will make them less craving after water.

The volatile salts in the urine may make it preferable to water, and may be the reason why garlick is found so efficacious in these cases; two or three cloves given at a time in a feed, or three ounces of garlick bruised and boiled in a quart of milk and water, and given every other morning for a fortnight, having been found very serviceable, for by warming and stimulating the solids, and dissolving the tenacious juices, which choak up the vessels of the lungs, these complaints are greatly relieved.

Broken
winded
horses
should be
constantly
abroad.
Necessary
cautions.

Careful feeding and moderate exercise has greatly relieved broken-winded horses; and tho' for the first summer they have not been able to endure much labour, yet many have been found less oppressed the second, and some scarce perceptibly affected the third; and even able to bear great fatigue. And could a horse be kept constantly in the field, and taken up only when used, he might by this management do good service for many years.

But whoever expects to cure his horse, by sending him out to grass, will find himself disappointed; especially if he remains abroad after the spring grass: for on his return to the

the stable and dry meat, he will be more oppressed and short breathed than before, for want of the open air and moist food he had been accustomed to.

Horses sent to grafs in order to be cured of an obstinate cough, have often returned compleatly broken-winded, where the pasture has been rich and succulent, so that they have had their bellies constantly full. As the ill consequence therefore is obvious, where you have not the conveniency of turning out your horse for a constancy, you may soil him for a month or two with young green barley, tares, or any other young herbage.

To pursive thick-winded horses, Barba-Thick-does and common tar have often been given winded with success to the quantity of two spoonfuls horses, mixed with the yolk of an egg, dissolved in how treat-warm ale, and given fasting two or three ed. times a week, especially those days you hunt or travel.

But in order to make all these sorts of horses of any real service to you, the grand point is to have a particular regard to their diet, observing a just æconomy both in that and their exercise; giving but a moderate quantity of hay, corn, or water, at a time, and moistening the former, to prevent their requiring too much of the latter, and never exercising them but with moderation, as has before been observed. The following alterative ball may be given once a fortnight or three weeks, and as it operates very gently, and requires no confinement but those days it is given (when warm meat and water are necessary) it may be continued for two or three months.

TAKE

An alterative purging ball.

TAKE succotrine aloes six drams, myrrh galbanum and ammoniacum, of each two drams ; bay berries half an ounce : make into a ball with a spoonful of oil of amber, and a sufficient quantity of syrup of buckthorn.

CHAP. VIII.

Of a CONSUMPTION.

The signs of a consumption.

WHEN a Consumption proceeds from a defect in a horse's lungs, or any principal bowel ; the eyes look dull ; the ears and feet are mostly hot ; he coughs sharply by fits ; sneezes much, and frequently groans with it ; his flanks have a quick motion ; he gleans often at the nose, and sometimes throws out a yellowish curdled matter, and he has little appetite to hay, but will eat corn, after which he generally grows hot.

The cure.

As to the cure, one of the principal things is bleeding in small quantities (a pint, or pint and half from some horses is sufficient) which should be repeated as often as the breath is more than ordinarily oppressed. Pectorals may be given to palliate present emergent symptoms ; but as dissections have discovered both the glands of the lungs, and mesentery to be swelled, and often indurated, the whose stress lies on mercurial purges, and the following ponderous alteratives, given intermediately.

Alterative powders.

TAKE native cinnabar, or cinnabar of antimony, one pound ; powder very fine,

fine, and add the same quantity of gum guaiacum and nitre; give the horse an ounce of this powder, twice a day, wetting his feeds,

The spring grass is often extremely service-able, but the salt-marshes are to be preferred, marshes and even to be more depended on than medicines; for great alterations are thereby made in the blood and juices, and no small benefit arises from open air, and proper exercise.

But it may be worth observing that when a horse frequently relapses, after appearances of amendment, when a yellowish gleet, or curdled matter runs from his nose, and he grows emaciated, is much addicted to sweat, heaves much with a reduplicated motion, and has a short rattling cough; under these circumstances there can be little hopes of his recovery, or any future services from him, consequently to save further expences, the best way would be to dispatch him as an incurable.

Observation.

As many of the above medicines in this, and the preceding chapter for coughs, may be thought too expensive for horses of no great value, tar-water may supply their place; and perhaps will be found on trial no unworthy medicine, as Barbadoes and common tar has been experienced very effectual in some sort of coughs, and of great service to thick-winded horses.

A remark.

C H A P. IX.

Of an Apoplexy, or Staggers, Convulsive Disorders, Lethargy, Epilepsy, and Palsy.

Disorders
of the
head how
to be dis-
tinguished.

FARRIERS generally include all disorders of the head under two denominations, *viz.* *Staggers* and *Convulsions*; wherein they always suppose the head primarily affected. But in treating these disorders, we shall distinguish between those that are peculiar to the head, as having their source originally thence; and those that are only concomitants of some other disease, where the head is affected secondarily by consent of nerves, the source of this disorder being in the stomach, bowels, &c. By this method we shall avoid many blunders, which would otherwise arise in practice, for want of knowing the true seat of the disorder.

In an apoplexy a horse drops down suddenly, without other sense or motion than a working at his flanks.

The
symptoms
of apo-
plexy, or
staggers.

The previous symptoms are drowfiness, watry eyes, somewhat full and inflamed; a disposition to reel, feebleness, a bad appetite; the head almost constantly hanging, or resting on the manger; sometimes with little or no fever, and scarce any alteration in the dung or urine: the horse is sometimes disposed to rear up, and apt to fall back when handled about the head, which is often the case with young horses, to which it does not prove suddenly mortal, but with proper help they may sometimes recover. If the apoplexy proceeds from wounds, or blows on the head, or matter on the brain, besides the
above

above symptoms, the horse will be frantic by fits, especially after his feeds, so as to start and fly at every thing. These cases seldom admit of a perfect recovery; and when horses fall down suddenly, and work violently at their flanks, without any ability to rise after a plentiful bleeding, they seldom recover.

All that can be done is to empty the vessels The cure. as speedily as possible, by striking the veins in several parts at once, bleeding to four or five quarts and to raise up the horse's head and shoulders, supporting them with plenty of straw. If he survives the fit, cut several rowels; give him night and morning, glysters prepared with a strong decoction of sena and salt, or the purging glyster mentioned in the directions; blow once a day up his nostrils a dram of powder of asarabacca, which will promote a great discharge, afterwards two or three aloetic purges should be given; and to secure him from a relapse, by attenuating and thinning his blood, give him an ounce of equal parts of antimony and crocus metallorum for a month; or which is preferable, the same quantity of cinnabar of antimony and gum guaiacum.

If the fit proceeds only from fullness of When the blood, high feeding, and want of sufficient staggers exercise, or a sily blood (which is often the are not case with young horses, who though they reel, dangerous stagger, and sometimes suddenly fall down, yet are easily cured by the above method) an opening diet with scalded bran and barley will be necessary for some time; and the bleeding may be repeated in small quantities.

As to the other disorders of the head, such Lethargy, as lethargy or sleeping evil, epilepsy or falling Vertigo. sickness, vertigo, frenzy and madness, convulsions,

vulsions, and paralytical disorders, as they are most of them to be treated as the apoplexy, by bleeding and evacuations with the alteratives above directed, we shall wave treating on them separately, but mention some particular rules to distinguish them, according to the plan we laid down, and then offer some general remedies to the several purposes.

Epilepsy
and con-
vulsions.

Thus in order to distinguish epileptic disorders and convulsions (which are often occasioned by worms, bots, and ulcerations of the stomach, bowels and midriff) from those which arise from original causes in the head only, we shall describe the symptoms which distinguish them from each other; by which means we shall be able to avoid any mistake in the application of the remedy: and as epileptic disorders have by ignorant farriers been mistaken for the gripes, we shall also distinguish these disorders by the symptoms.

How epi-
leptic dis-
orders are
disting-
uished
from
gripes.

In an epilepsy, or falling sickness, the horse reels and staggers, his eyes are fixed in his head, he has no sense of what he is doing, he stales and dungs insensibly, he runs round and falls suddenly; sometimes he is immovable, with his legs stretched out, as if he was dead, except only a quick motion of his heart and lungs, which causes a violent working of his flanks; sometimes he has involuntary motions, and shaking of his limbs, so strong, that he has not only beat and spurned his litter, but the pavement with it; and with these alternate symptoms a horse has continued more than three hours, and then has as surprizingly recovered; at the going off of the fit, he generally foams at the mouth, the foam being white and dry, like what comes from

from a heathful horse when he champs on the bit.

But in all kinds of gripes, whether they proceed from disorders in the guts, or retention of urine, a horse is often up and down, of gripes rowls and tumbles about, and when he goes to lie down generally makes several motions with great seeming carefulness, which shews he has a sense of his pain, and if he lays stretched out for any time, it is generally but for a short space. *Vide Chap. GRIPES.*

Epilepsies and convulsions may arise from blows on the head, too violent exercise, and hard straining; and from a fullness of blood, or impoverished blood, and surfeits; which are some of the causes that denote the original disorder.

But the head may also be affected by sympathy of nerves; for excessive pain in any part of the body will excite convulsions, especially if the nerves and tendinous parts are affected, as by wounds, punctures, and bruises externally; and by ulcers, gatherings of matter, and by bots and worms, wounding and vellicating the nervous parts internally; long costiveness has sometimes also occasioned these disorders. In all such cases, the original cause must principally be attended to.

In lethargic disorders the horse generally rests his head with his mouth in the manger, and his poll often reclined to one side; he will shew an inclination to eat, but generally falls asleep with his food in his mouth, and he frequently swallows it whole, without chewing: emollient glysters are extremely necessary in this case with the nervous balls recommended for the staggers, and convulsions.

Young
horses
subject to
convul-
sions from
bots.

From the
midriff.

Convul-
sions from
the sto-
mach, and
other
principal
bowels
described.

Young horses from four to six years, are very subject to this disease, from bots in the spring; and the large coach-breed more than the saddle: they are seized without any previous notice, and if bots and worms are discovered in their dung, the cause seems to be out of doubt, more especially if they are lately come out of the dealer's hands.

When this convulsion proceeds from a distemperature of the midriff, or any of the principal bowels, it is to be distinguished from bots and vermin by previous symptoms: the horse falls off his stomach; grows gradually weak, feeble, and dispirited in his work; and turns short-breathed with the least exercise.

The lively description of that universal cramp or convulsion, called by some the stag-evil, which seizes all the muscles of the body, at once, and locks up the jaws, so that it is impossible almost to force them open, we shall give in Mr. *Gibson's* own words; who says, "As soon as the horse is seized, his head is raised with his nose towards the rack, his ears pricked up, and his tail cocked, looking with eagerness, as an hungry horse when hay is put down to him, or like a high-spirited horse when he is put upon his mettle; in-somuch that those who are strangers to such things, when they see a horse stand in this manner, will scarce believe any thing of consequence ails him; but they are soon convinced, when they see other symptoms come on apace, and that his neck grows stiff, cramped, and almost immoveable; and if a horse in this condition lives a few days, several knots will arise on the tendinous parts thereof, and all the muscles both before and behind, will be so much pulled and cramped,
and.

and so stretched, that he looks as if he was nailed to the pavement, with his legs stiff, wide and stradling, his skin is drawn so tight on all parts of the body that it is almost impossible to move it; and if trial be made to make him walk, he is ready to fall at every step, unless he be carefully supported; his eyes are so fixed with the inaction of the muscles, as gives him a deadness in his looks; he snorts and sneezes often, pants continually with shortness of breath: and this symptom increases continually till he drops down dead; which generally happens in a few days, unless some sudden and very effectual turn can be given to the distemper."

In all these cases the horse should first be bled plentifully, unless he is low in flesh, old, or lately come off any hard continued duty, then you must be more sparing of his blood; afterwards give the following ball:

TAKE assa foetida half an ounce; Ruffia The ner-
castor powdered two drams; valerian vious ball,
root powdered, one ounce: make into
a ball with honey and oil of amber.

This ball may be given twice a day at first; and then once, washed down with a decoction of misletoe, or valerian, sweetened with liquorice or honey: an ounce of assa foetida may be tied up in a piece of strong coarse linen rag, and put behind his grinders to champ on.

The laxative purges and emollient glysters should be given intermediately to keep the body open; but when the former balls have been taken a week or ten days, the following

D 4.

may

may be given once a day with the valerian decoction,

Another
nervous
ball.

TAKE cinnabar of antimony six drams, assa foetida half an ounce, aristolochia, myrrh and bay berries, of each two drams: make into a ball with treacle and oil of amber.

This is the most effectual method of treating these disorders; but when they are suspected to arise from bots, and worms, which is generally the case, mercurial medicines must lead the way. Thus,

A mercurial
ball.

TAKE mercurius dulcis, and philonium, of each half an ounce: make into a ball with conserve of roses, and give the horse immediately; half the quantity may be repeated in four or five days.

The following infusion should then be given, to the quantity of three or four horns, three or four times a day, till the symptoms abate; when the above nervous balls may be continued till they are removed.

An infusion.

TAKE pennyroyal and rue, of each two large handfuls; camomile flowers one handful; assa foetida and castor, of each half an ounce; saffron and liquorice root sliced of each two drams: infuse in two quarts of boiling water; pour off from the ingredients as wanted.

If the castor is omitted, add an ounce of assa foetida.

The

The following ointment may be rubbed in-
to the cheeks, temples, neck, shoulders,
spines, of the back and loins, and wherever
there is the greatest contractions and stiff-
ness.

TAKE nerve and marshmallow ointment, An emol-
of each, four ounces; oil of amber two lient lini-
ounces; with a sufficient quantity of ment.
camphorate spirit of wine: make a lini-
ment.

To horses of small value, give the follow-
ing:

TAKE rue, penny-royal, and tobacco, of
each a handful; assa foetida an ounce;
boil in a quart of forge-water: let the
decoction stand on the ingredients, and
give as the former.

When the jaws are so locked up that me-
dicines cannot be given by the mouth, it is
more eligible then to give them by way of
glyster, for forcing open the jaws by vio-
lence, often puts a horse into such agonies,
that the symptoms are thereby increased.
The infusion above may be given for this pur-
pose, or the following.

TARE rue, penny-royal, and camomile
flowers, of each a handful, valerian
root one ounce, boil in five pints of wa-
ter to two quarts; in the strained liquor
dissolve castor and assa foetida of each half
an ounce, or of assa foetida alone one
ounce, common oil four ounces. Give
this glyster once a day.

In this case also he must be supported by nourishing glysters, made of milk pottage, broths, &c. which must be given to the quantity of three or four quarts a day; glysters of this kind will be retained, and absorbed into the blood; and there have been instances of horses thus supported for three weeks together, who must otherwise have perished.

Frictions
very use-
ful in all
convulsive
cases.

Mr. *Gibson* mentions some extraordinary instances of success in cases of this sort by these methods, and repeated frictions, which are extremely serviceable in all convulsive disorders, and often prevent their being jaw-set; they should be applied with unwearied diligence every two or three hours, wherever any stiffness or contractions on the muscles appear, for a horse in this condition never lies down till they are in some measure removed.

A remark-
able case.

He takes particular notice of a horse, whose jaws were so locked up for three weeks, that both food and medicine were forced to be given by glyster; That not having recovered the use of his jaws for a fortnight, though he now moved them with less stiffness, he was determined, from the known relaxing power of opium, to give him half an ounce of it, dissolved in one of his glysters, the good effects of which were so evident, by a general amendment, that he was encouraged to continue it in the following manner.

TAKE Matthew's pill, and assa foetida, of each an ounce: make into a ball.

This ball he gave for one dose, and repeated once; and by this, and the use of the nervous medicines given twice a week, and
gentle

gentle purging, the horse was perfectly recovered.

The use of rowels in these cases is generally unsuccessful, the skin being so dense and tight, that they seldom digest kindly, and sometimes mortify; so that if they are applied, they should be put under the jaws, and in the breast.

In paralytic disorders, where the use of a limb or limbs is taken away, the internals above recommended, should be given in order to warm, invigorate, and attenuate the blood; and the following stimulating embrocation should be rubbed into the parts affected.

TAKE oil of turpentine four ounces, nerve ointment and oil of bays, of each two ounces; camphor rubbed fine, one ounce; rectified oil of amber three ounces, tincture of cantharides one ounce.

With this liniment the parts affected should be well bathed for a considerable time, to make it penetrate; and when the hind parts chiefly are lame, the back and loins should be well rubbed with the same; to the nervous medicines above recommended, may be added snake-root, contrayerva, mustard seed, horse-radish root, steep'd in strong beer, or wine where it can be afforded. Take the following for an example, which may be given to the quantity of three pints a day alone, or two horns full may be taken after the nervous balls.

TAKE

The paralytic infusion.

TAKE snake root, contrayerva and valerian of each half an ounce, mustard seed and horse-radish-root scraped, of each two ounces, long pepper two drams, infuse in three pints of strong beer or wine.

How the lethargy or sleepy evil should be treated.

In lethargic disorders, strong purgatives are not required, but opening glysters, with the cinnabrine and gummy medicines: nor must you bleed in too large quantities, unless the horse be young and lusty. In old horses, rowels and evacuations are improper, but volatiles of all kinds are of use when they can be afforded.

When the horse is recovering, the following alterative purge may be repeated two or three times, as it operates very gently.

An alterative purge.

TAKE succotrine aloes one ounce; myrrh half an ounce; assa foetida and gum ammoniacum, of each two drams; saffron one dram: make into a ball with any syrup.

How to treat disorders of the head from costiveness

Where a retention of dung is the cause of this disorder, the great gut should first be raked thoroughly with a small hand, after which plenty of emollient oily glysters should be thrown up, and the opening drink given till the bowels are thoroughly emptied of the imprisoned dung. The irrdiet should for some days be opening, and consist chiefly of scalded bran with flour of brimstone, scalded barley, &c.

Observation.

This general method we hope will give sufficient light into the nature of these disorders, and their treatment, without minutely entering into their causes; which in some cases, perhaps

perhaps are inscrutable; and where the most plausible writers have appeared rather as learned triflers than satisfactory reasoners.

C H A P. X.

Of the STRANGLES and VIVES.

THE strangles is a distemper to which The strangles
colts, and young horses are very subject; gles de-
and begins with a swelling between the jaw- scribed.
bones, which sometimes extends to the
muscles of the tongue; and is attended with
so great heat, pain, and inflammation, that
sometimes till matter is formed, the horse
swallows with the utmost difficulty.

The symptoms are extraordinary heat and The
feverishness, with a painful cough, and a great symptoms
inclination to drink without being able; some
horses losing their appetite intirely, others
eating but little, by reason of the pain which
chewing and swallowing occasions: when the
swelling begins on the inside of the jaw bones,
it is much longer in coming to matter than
when more to the middle; when it arises
among the glands, and divides into several
tumours, the cure is generally tedious, as it
breaks in different places; and when it forms
upwards on the windpipe and gullet, there is
sometimes danger of suffocation, unless the
swelling soon breaks. But the most dange-
rous kind is, when, besides the above symp-
toms, the horse runs at the nose; this by
some is called the bastard strangles.

As this disorder seems to be critical, the The cure.
most approved method is to assist nature in
bringing the swellings to maturity, by keep-
ing

ing them constantly moist with ointment of marshmallows, and covering the head and neck with a warm hood. But as all swellings in glandular parts suppurate slowly, the following poultice may be applied hot twice a day: it is also a very proper one to ripen, or bring any other swelling to matter.

A suppurating
poultice.

TAKE leaves of marshmallows ten handfuls; white lilly-root half a pound; linseed and fenugreek seed bruised, of each four ounces: boil them in two quarts of water till the whole is pulpy, and add four ounces of ointment of marshmallows, and a sufficient quantity of hogs-lard, to prevent its growing stiff and dry.

In five or six days, by these means, the matter is generally formed, and makes its way through the skin; and if the discharge is made freely and with ease, the opening need not be enlarged; but should be dressed with the following ointment spread on tow, still continuing the poultice over it to promote the digestion, and prevent any remaining hardness.

A general
digestive
ointment.

TAKE rosin and Burgundy pitch, of each a pound and half; honey and common turpentine, each eight ounces; yellow wax four ounces; hogs-lard one pound; verdigrease finely powdered one ounce: melt the ingredients together, but don't put in the verdigrease, till removed from the fire; and it should be stirred in by degrees, till the whole is grown stiff and cool.

If

If the fever and inflammation run high, and Bleeding the swelling be so situated as to indanger sometimes focation, a moderate quantity of blood must necessary be taken away, and the remainder diluted with plenty of water gruel, or warm water, mashes, &c.

The running at the nose, which often attends the strangles, is dangerous; especially if it continues after they have ripened and broke, as the horse will be greatly weakened thereby. To prevent this waste and decay, give him every day for some time an ounce of Jesuits bark; or a strong decoction of guaiacum shavings, which hath been found extremely beneficial in restraining these glandular discharges when too liberal, and in drying up ulcers of all kinds in horses. Observation.

If a hardness remains after the sores are healed up, they may be anointed with the mercurial ointment; and, when the horse has recovered his strength, purging will be necessary.

The vives or ives differ from the strangles only in this, that the swellings of the kernels under the ears of the horse (which are the parts at first chiefly affected) seldom gather, or come to matter, but by degrees perspire off, and disperse, by warm cloathing, anointing, with the marshmallow ointment, and a moderate bleeding or two. But should the inflammation continue, notwithstanding these means, a suppuration must be promoted by the methods above recommended in the strangles. The vives described.

When these swellings appear in an old or full-aged horse, they are signs of great malignity, and often of an inward decay, as well as forerunners of the glanders.

The

A mercurial ointment.

The mercurial ointment above mentioned, may be prepared thus :

TAKE of crude mercury, or quicksilver, one ounce ; Venice turpentine half an ounce ; rub together in a mortar till the globules of the quicksilver are no longer visible ; then add two ounces of hogslard.

Some authors recommend this ointment to be used at first, in order to disperse the swellings, and prevent their coming to matter ; bleeding and purging at the same time for that purpose ; but as in young horses they seem to be critical, the practice by suppuration is certainly more eligible and safe ; for want of properly effecting which, the humours frequently settle, or are translated to the lungs, and other bowels ; or falling on the fleshy parts of the hind quarters, form deep imposthumes between the muscles, which discharge such large quantities of matter, as sometimes kill the horse, and very often endanger his life.

C H A P. XI.

Of the Diseases of the EYES.

The diseases of the eye distinguished. **I**N order to make the disorders of the eyes well understood, we shall consider them as arising from different causes : external injuries affecting the globe of the eye : and from internal causes affecting the humours within the globe. We shall consider also the eye as naturally

turally weak from a bad conformation, which possibly may often be hereditary.

We shall thus be able to form a proper judgment when washes, and external applications, are really useful, and to be depended on; and when it is not only absurd to apply them, but even extreamly pernicious.

In all recent disorders of the eye from external injuries, such as blows, bites, &c. attended with a swelling of the lid, and a running from the eye, you must first sponge the part often with cold spring water and vinegar; and if much swelled, bleed immediately, and apply over it a poultice made of the pulps of roasted or boiled apples, cleared from their seeds and husks; or of conserve of roses and vinegar, with a little bole, and the white of an egg. When the swelling is abated, either of the following washes will compleat the cure.

TAKE white vitriol half an ounce, sugar of lead two drams, dissolve in a pint of spring water: to which may occasionally be added, when the rheum is very great, and inflammation removed, half an ounce of tutty, or compound powder of cerufs.

Let the eye and eye-lid be bathed three or four times a day with a clean sponge dipped in this wash; or it may be applied with a feather, leaving a few drops on the eye. When the veins under the eye have been turgid, opening them with a lancet has often been found successful.

Mr.

Mr. *Gibson* from his own experience recommends the following, with which alone he has succeeded in most common cases.

Another
repelling
eye-water

TAKE two drams of rose buds, infuse them in half a pint of boiling water; when cold, pour off the infusion, and add to it twenty grains of sugar of lead.

This is to be used as the former; but I think the quantity of sugar of lead too small, and may occasionally be increased.

Extraor-
dinary
symptoms

Sometimes from the violence of the inflammation, succeeding blows, and external injuries, the coats of the eye shall lose their transparency, thicken and turn white, or pearl-colour; in the latter case the horse has some glimmering of light; in the former he is blind, while the eye continues in this state.

How
caused.

This appearance may arise from a stagnation of the lymph, or juices circulating in the cornea, which in their natural state are clear and thin, but undergo this change by the heat and inflammation: a white blister often forms on the cornea, the size sometimes of a grape; this always proves a relief, and when it breaks, hastens the cure.

In all these disorders, the degree of inflammation and obstruction is chiefly to be attended to, which must regulate the preceding remedies in regard to their strength, so as to proportion them to the exigency of symptoms.

The cure
of inflam-
mations.

If the horse be fleshy and of a gross constitution, bleeding may be repeated; and a rowel will be necessary: let his diet be scalded bran or barley; avoiding for some days oats, beans, or any thing hard to chew.

The

The cooling opening drink, p. 35. should be given every other day, which will answer better than aloetic purges.

If the eye-lids continue swelled and moist, and the under side of the eye inflamed, an ounce of honey may be added to four ounces of the above waters; or the part may be well bathed with an ounce of honey of roses and half a dram of sugar of lead, dissolved in three ounces of spring water: to which may be added, when the eye is very watry, a spoonful or two of red wine, which will help to thicken the matter and dry it up.

If a film, or thick slough should remain, it may be taken off, by blowing into the eye how re- equal parts of white vitriol and sugar candy, moved. finely powdered. A film,

Glass finely powdered, mixed up with honey and a little fresh butter is much recommended by *Dr. Bracken* for this purpose; as also the following ointment.

TAKE ointment of tutty one ounce, honey of roses two drams, white vitriol burnt one scruple: this with a feather may be smear'd over the eye twice a day. An ointment for films on the eye.

The aq. sapphirina and the juice of celandine are recommended also for this purpose, a few drops of either being put on the eye every day. For the same purpose, as also for bruises and other disorders of the eye, the following will be found useful.

TAKE eye-bright and celandine of each two handfuls, rosemary tops half an handful, rosin half an ounce; chop the herbs &c. An ointment for bruises,

herbs and boil them over a gentle fire in three pints of cream, till it comes to a green oil, then strain through a fine cloth, and keep in a gally-pot for use.

The quantity of a small bean may be put in the horses eye, night and morning.

The next is the famous ointment of Sir *Hans Sloane*, where I have only taken the liberty to double the quantity of aloes.

Sir *Hans Sloane's*
ointment.

TAKE of prepared tutty one ounce, of lapis hæmatitis prepared two scruples, of the best aloes twenty-four grains, of prepared pearl four grains; put into a marble mortar, and mix with a sufficient quantity of vipers fat.

Some ob-
servations
on it.

This medicine, like other nostrums, was in great esteem while it remained a secret; but since the discovery of it, and an examination of the composition, it appears to vary in nothing from the common practice, except in the substitution of the vipers fat, for lard, or fresh butter. It ought also to be remarked in Sir *Hans's* account, that in the application, he calls to his assistance all the means, medical practice has hitherto employed in cases of this kind; as bleeding, cupping, blistering, issues, alteratives, &c.—So that either some of these methods must do very little, proportionably to the trouble they give, or his medicine less, to render both necessary. This form may however be preferable to washes, or eye-waters, as it will remain longer on the parts affected.

Proper
cautions.

Let it be remembered, that it has long been observed in practice, that the eye in its first state

state of inflammation is so very tender, that eye-waters prepared with tutty, and other powders aggravate the disorder; consequently during this state, the tinctures of vegetables, and solutions of salts are greatly preferable.

Wounds of the eye may be dressed with Wounds honey of roses alone, or with a little sugar of of the eye lead mixed with it, adding thereto, after a how treat- few days, an eighth part of tincture of myrrh; ed. all the preceding directions in regard to inflammation being attended to, especially bleeding, rowels, and gentle cooling physick.

When the humours of the eye are thicken- Observa- ed, and the disorder is within the globe, tion. sharp external applications are not only useless, but extreamly detrimental, by the irritation they occasion, and consequently should be avoided.

In all cases of this sort, whether moon eyes, which are only cataracts forming, or in confirmed ones attended with a weeping; general evacuations, with internal alteratives, can only take place. Let us describe these internal disorders with their symptoms.

These generally make their appearance, The when a horse is turned five, coming six; at symptoms which time one eye becomes clouded, the of moon eye-lids being swelled, and very often shut eyes, and up; and a thin water generally runs from the cataracts. diseased eye down the cheek, so sharp as sometimes to excoriate the skin; the veins of the temple, under the eye, and along the nose, are turgid and full: though sometimes it happens that the eye runs but little.

This disorder comes and goes till the cataract is ripe; then all pain and running disappears, which is generally in two years.

During

During this time some horses have more frequent returns than others; which continue in some a week or more, in others three or four; returning once in two or three months, and they are seldom so long as five without a relapse.

A dry
cataract
described.

There is another kind of moon blindness, which is the forerunner of cataracts, where no humour or weeping attends. The eye is never shut up or closed here, but will now and then look thick and troubled, at which time the horse sees nothing distinctly: when the eyes appear sunk and perishing, the cataracts are longer coming to maturity; and it is not unusual in this case for one eye to escape.

The ge-
neral
event.

These cases generally end in blindness of one, if not of both eyes; the most promising signs of recovery are when the attacks come more seldom, and their continuance grows shorter, and that they leave the cornea clear and transparent, and the globe plump and full.

The cure
of cata-
racts.

The attempts to cure cataracts have hitherto been only palliative and mitigating the symptoms; yet early care has sometimes been successful. To this end the horse should be rowel'd and bled at proper intervals; except where the eyes appear sunk and perishing, where it is often pernicious. During the violence of the symptoms, observe the cooling treatment above recommended, giving him two ounces of nitre every day mixed into a ball with honey, and bathe the parts above the eye with verjuice, or vinegar, wherein rose-leaves are infused.

Mercuri-
als recom-
mended.

In order to prevent a relapse, and open the vessels of the cristalline humour (which in this case is always found opaque, and when the cataract

catara& is confirmed, entirely loses its transparency) and hinder as much as possible the forming of obstructions, mercurials are chiefly to be depended on: thus give every other day for three or four mornings two drams of calomel mixed up with conserve of roses; and purge off with the common ball.

During this course particular care should be taken of the horse: after repeating this, the alterative powders with cinnabar and that are to guaiacum, p. 209. should be given, for some be de- weeks or months, if you expect any benefit from them; or they may be beat up into a ball with live millepedes, and an ounce and half given every day: if these should not succeed, and the horse is a valuable one, the tur- bith course recommended in the chapter on alteratives, seems to be the most promising method left. But to horses that are not so, a strong decoction of guaiacum shavings may be given for some time, to which crude anti- mony may be added in the following manner.

TAKE guaiacum shavings one pound, An alter- crude antimony tied in a rag, the same ative quantity; boil in two gallons of forge-drink. water to one, and give a quart a day, ei- ther alone, or mixed with his water.

Dr. *Bracken* advises as much as will lie on a Six-pence, of the following powder, to be blown up the horse's nostrils once a day.

TAKE turbith mineral two drams, assa- A stimu- rabacca powdered, half an ounce; mix, lating and keep in a bottle well corked. snuff.

Tying

Of the GLANDERS.

Tying up the temporal arteries is by some much commended, especially in full eyes; for by this means the circulation of the blood to them, is greatly impeded: but to flat depressed eyes this operation must be injurious, as it would deprive them of their necessary nourishment, and tying up the veins would seem here the most proper.

The
Haws
what.

The haws is a swelling and spunginess that grows in the inner corner of the eye, so large sometimes as to cover a part of the eye. The operation here is easily performed by cutting part of it away; but the farriers are apt to cut away too much: the wound may be dressed with honey of roses; and if a fungus or spongy flesh arises, it should be sprinkled with burnt allum, or touched with blue vitriol.

C H A P. XII.

Of the GLANDERS.

The glanders, hitherto but little understood.

THE cause and seat of the glanders has till lately been so imperfectly handled, and so little understood, by the writers of this distemper, that it is no wonder it should be ranked among the *incurables*: but a new light having been thrown on this whole affair by the study of M. *La Fosse*, the King of France's farrier, who has been at the pains to trace out, and discover by dissections, the source and cause of this disorder; we hope the method he has proposed, with some further experiments and improvements, will soon bring to a certainty of cure (in most cases at least) a distemper

distemper so dangerous to our horses, and that hitherto has eluded the force of art.

Before we make mention of this work, which has the approbation of the Royal Academy of Sciences, it will not be unacceptable to our readers, we apprehend, to have a more particular account of the symptoms of this disorder than M. *La Fosse* has laid down, that we may the better judge of the merit of our author and his discoveries.

The matter then discharged from the nostrils of a glander'd horse, is either white, yellow, or greenish, sometimes streaked or tinged with blood; when the disease is of long standing, the matter turns blackish and becomes very fetid, and is always attended with a swelling of the kernels or glands under the jaws; in every other respect the horse is generally healthy and sound, till the distemper has been of some continuance.

The symptoms.

From these symptoms and some observations made both by *Bracken* and *Gibson*, it is plain they were not absolute strangers to the seat of this disorder, though they neglected pushing their inquiries to the fountain head, and consequently were at a loss to know how to apply the remedy to the parts affected.

But our author, after examining by dissection the carcases of glander'd horses, and making a strict scrutiny into the state of the viscera, assisted for that purpose by ingenious and expert anatomists for ten years together, affirms this disease to be altogether local; and that the true seat of it is in the *pituitary* membrane, which lines the partition along the inside of the nose, the *maxillary sinusses* or cavities of the cheek-bones on each side the nose, and

Dissections prove the seat of the glands to be in the cavities of the head, and not in the viscera.

and the frontal *sinusses* or cavities above the orbits of the eyes; that the *viscera*, as liver, lungs, &c. of glandered horses are in general exceeding sound; and consequently that the seat of this disorder is not in those parts, as has been asserted by most authors; nor indeed is it probable it should; for how could such horses preserve their appetite, their good appearance, sleek and shining coats; in a word, all the signs of health for many years together (which many glander'd horses are known to enjoy) with such distemper'd bowels.

Ocular
demon-
stration of
it.

But on nicely examining the heads of such horses, he found the cavities above mentioned, more or less, filled with a viscous slimy matter, the membrane which lines both them and the nostrils inflamed, thickened, and corroded with sordid ulcers, which in some cases had eat into the bones. These *sinusses* or cavities will be better understood by referring to the annexed plate.

Some cu-
rious ob-
servations.

He observes that, when glander'd horses discharged matter from both nostrils, both sides of the membrane and cavities were affected; but when they ran at one nostril only, that side only was found distempered.

It is a curious remark of our author, that the sublingual glands, or the kernels situated under the jaw-bone, which are always swelled in this distemper, do not discharge their lymph into the mouth, as in man, but into the nostrils; and that he constantly found their obstruction agreed with the discharge; if one gland only was affected, then the horse discharged from one nostril only; but if both were, then the discharge was from both.

He

He sometimes, though rarely, found the The bones bony partition of the nose carious or rotten ; sometimes but that the spongy bones about this part rotten. must suffer from the acrimony of matter long pent up, is not at all to be doubted, though the more solid ones may escape.

The feat of this disorder thus discovered, The cure our author with great ingenuity, has paved by trepan- the way for the cure, by trepaning these ca- ing. vities, and taking out a piece of bone, by which means the parts affected may be washed with a proper injection, and in fine the ulcers deterged, healed, and dried up.

This operation he has performed on three The suc- horses; two of whom discharged from one cess in re- nostril only, and the third from both: the gard to the two first he trepaned on that side of the head the opera- which was affected, and to the other he per- tion. formed it on both ; and found that the wound and perforation filled up with good flesh in twenty-six days, and that the horses suffered no inconvenience from the operation ; though after this experiment they were knocked on the head.

The directions and orders of the civil go- Why not vernment of *France*, which hinder people brought to from keeping glander'd horses long, pre- perfection- vented M. *La Fosse* repeating his attempts, in *France*. and pushing his experiments further; but it is to be hoped that so useful a project will be pursued to its utmost extent, as it seems so promising in the execution, and is so important in its consequences : to which end we shall beg leave to animadvert on what has been said, and offer our opinion both in relation to the disease, the operation, and the manner of conducting the cure.

The true
cause and
seat of the
glanders.

The original source and cause then of this disorder seems to be an inflammation of the glands and membrane that line the nostrils and these cavities; which, if not dispersed in time, will form matter, and ulcerate and erode the bones, for want of a free discharge to unload the cavities, and of proper applications to cleanse and deterge the ulcers: violent colds, or a feverish translocation settling here, may also occasion the same complaint, and are probably the general causes.

An analogy between the glanders and matter gathered in the cheek-bone of man.

There is a disorder in men, called *Ozæna*, that has great similitude to this in horses, and arises often from an inflammation in the *maxillary sinusses*, or cavities in the cheek-bones, from whence ensues a collection of matter; which when the cavity is full, or the head properly inclined, runs over into the nose, and would constantly discharge thence like a glander'd horse, was the head continued in the same position. The surgical cure is the taking out one or more teeth from the upper jaw, and perforating the cavity with a proper instrument, in order to make a depending orifice for the matter to flow through; and to make way for syringing the parts affected with proper injections, which in this case are thrown through the cavity into the nose.

The method of cure in both much alike.

The similarity of these two cases, with the method of cure, and the success attending the surgical treatment (which was first invented and perfected by our countrymen, *Drake* and *Cowper*) undoubtedly gave the first hint for trepaning, and syringing these cavities in horses; and it is most probable, that when the operation is attempted in time, before the bones become rotten, it will be attended with equal success; but after opening

ing the cavities, should it by probing be discovered, that the bones are in that state, the best way then would be to dispatch the horse, to prevent unnecessary trouble and expence.

The parts fixed on for applying the trepan, are pointed out in the plate, and the manner of sawing out the bone will easily be understood by a view of the instrument, and the explanation annexed.

The perforations being made, our next business is to prevent their filling up too fast; as to be ob- it may be necessary to keep them open for served af- some weeks before a cure can be effected; for ter the o- which purpose, after the use of the injection, peration. let the upper one be filled up with a piece of cork waxed over, and adapted exactly to it's size, the lower one may be filled up with a hollow leaden tent, and both kept on with a proper bandage.

If this method should not prevent the gra- Cautics, nulations, or shoots of flesh, from filling up and caute- so fast as to choak up the perforation, and ry may be by that means hinder the injections passing necessary. freely; they must be suppressed by rubbing with caustic medicines, or touching with the actual cautery; as may also the bony edges; which by obliging them to exfoliate or scale off, will retard the healing.

The injections first made use of, should be Injections of a deterfive nature; as a decoction of birth-recom- wort, gentian and centaury; to a quart of mended. which, if two ounces of Ægyptiacum and tincture of myrrh are added, it may be as proper as any; and when the discharge is observed to abate, and the colour alter to a thick white matter, the injection may be changed for barley-water, honey of roses, and tincture of myrrh; and finally to dry up the humidities,

humidities, and recover the tone of the relaxed glands, *Bates's* allum water, or a solution of colcothar, vitriol, lapis medicamentosus, or such like, in lime-water, will most probably compleat the cure.

Internals
necessary
to compleat
the cure.

But whoever is at all acquainted with practical surgery, well knows, that without the assistance of internals, especially in glandular disorders, the cure is not so easily effected, nor rendered compleat or lasting: I therefore advise a strong decoction of guaiacum chips to be given every day, to a quart or three pints, throughout the cure, and when the matter lessens, to purge at proper intervals, and put a rowel into the horse's chest, in order to divert the fluids from their old channel: if these should not succeed, mercurials may be given with the physick; and the alterative powders with lime water may be taken for a time, if the horse is worth the expence. *Vide* ch. on Alteratives.

C H A P. XIII.

Of the CHOLIC or GRIPES, and Pains in the Bowels, from sudden Accidents.

The
gripes in
horses,
little understood
by farriers.

THERE seems to be no distemper so little understood by the common farrier, as the cholic or gripes in horses, one general remedy or method serving them in all cases; but as this disorder may be produced by very different causes, the method of cure must also vary, otherwise the intended remedy, injudiciously applied, will not only aggravate the complaint, but make it fatal. We shall

shall divide this disorder into three different species: The flatulent or windy, the bilious or inflammatory, and the dry gripes; each of which we shall distinguish by their different symptoms, and then point out the proper remedies.

The flatulent, or windy cholic is thus known. The horse is often lying down, and as suddenly rising again with a spring; he strikes his belly with his hinder feet, stamps with his fore-feet, and refuses his meat; when the gripes are violent, he will have convulsive twitches, his eyes be turned up, and his limbs stretched out as if dying, his ears and feet being alternately very hot and cold: he falls into profuse sweats, and then into cold damps; strives often to stale, and turns his head frequently to his flanks; he then falls down, rolls about, and often turns on his back; this last symptom proceeds from a stoppage of urine, that almost always attends this sort of cholic, which may be increased by a load of dung pressing on the neck of the bladder.

These are the general symptoms of cholic and gripes from wind, drinking cold water when hot, and when the perspirable matter is retained, or thrown on the bowels by catching cold; in all which cases they are violently distended. Cribbing horses are more particularly subject to this complaint, by reason they are constantly sucking in great quantities of air.

The first intention is to empty the straight gut with a small hand dipt in oil, which frequently makes way for the confined wind to discharge itself; and by easing the neck of

the bladder, the suppression of urine is taken off, and the horse stales and gets ease.

Farriers generally strike a fleam into the bars of a horse's mouth, which seems to be of little or no use; for where a quantity of blood is intended to be taken away, the vessels of this part are neither large or numerous enough to furnish it; so that it is more eligible to take it from the neck vein, and is always proper in full, sanguine, plethoric, young horses.

The following ball and glyster seldom fail of giving relief in these cases.

A ball for
the strangury in
the wind
cholic.

TAKE Strasburgh or Venice turpentine, and juniper-berries pounded, of each half an ounce; salt-prunella, or salt-petre, an ounce; oil of juniper one dram; salt of tartar two drams: make into a ball with any syrup; it may be given whole, and washed down with a decoction of juniper berries, or a horn or two of ale.

If the horse does not break wind, or stale plentifully, he will find no relief; therefore in an hour or two give him another ball, and add to it half a dram of salt of amber; which may be repeated a third time, if found necessary. During the fit the horse may be walked and trotted gently, but should by no means be harrassed beyond his ability, or dragged about till he is jaded.

The following glyster may be given, between the balls, or alone, and repeated occasionally.

TAKE

TAKE camomile flowers two handfuls; A glyster
 anise, coriander, and fennel seeds, of for wind.
 each an ounce; long pepper half an
 ounce: boil in three quarts of water to
 two; and add Daffy's elixir, or gin, half
 a pint; oil of amber half an ounce, and
 oil of camomile eight ounces.

The subsequent balls and drink are also
 very proper for this purpose, and to remove
 gripes occasioned by drinking cold water
 when hot, or catching cold after violent ex-
 ercise.

TAKE powder of anise, cumin, and fen- A ball for
 nel seeds, of each half an ounce; cam- wind.
 phor two drams; pellitory of Spain one
 dram; oil of juniper fifty drops, make
 into a ball with any syrup, and wash it
 down with a horn or two of ale.

Or,

TAKE mithridate, or Venice treacle, two A drink
 ounces; Matthew's pill two drams; for the
 camphor one dram, dissolved in a little same.
 spirit of wine; powder of fresh anni-
 feed one ounce; or the same quantity of
 the cordial ball: dissolve in a pint and
 half of ale.

Or,

TAKE philonium one ounce, or an ounce Another
 and half; tincture of sena, or Daffy's drink.
 elixir, and salad oil, of each half a pint:
 give warm for a drink, and repeat it if
 necessary.

Either of these medicines are well calculated for this purpose; but as the ingredients may not always be ready at hand, or procurable, we shall put down a couple of drinks, that have frequently on trial been found successful, and are easily prepared. It is to be observed that the horse should be well rubbed, cloathed and littered with clean straw up to his belly.

Drinks for
the same
easily pre-
pared.

TAKE of Castile soap, or hard soap; nitre, or salt-petre, of each one ounce; juniper-berries and ginger, each half an ounce: Venice turpentine or rosin, dissolved with the yolk of an egg, six drams: mix with a pint and half of warm ale, or a decoction of juniper-berries, with a large onion boiled with them. This may be repeated twice or thrice.

Or,

TAKE a pint of brandy, rum, or geneva, with as much sweet oil, and give for a drink. Should this not succeed, boil an ounce of pepper or ginger, in a quart of milk, and add to it a handful of salt, and half a pint of oil: this given warm, will (according to *Burden*) purge in two or three hours.

Signs of a horse's recovery, are his lying quiet, without starting, or tumbling, and his gathering up his legs, and ceasing to lash out; and if he continues an hour in this quiet posture, you may conclude all danger over.

The bilious or inflammatory is the bilious or inflammatory; which besides most

most of the preceding symptoms, is attended by cholic with a fever, great heat, panting, and dry- or gripes, nefs of the mouth; the horse also generally described. throws out a little loose dung, with a hot scalding water, which when it appears blackish or of a reddish colour, and fetid smell, denotes an approaching mortification.

In this case the horse should immediately be bled to the quantity of three quarts; and it should be repeated, if the symptoms do not abate in a few hours. The emollient glyster, with two ounces of nitre dissolved in it, should be thrown up twice a day, to cool the inflamed bowels; plenty of gum arabic water should be taken; and a pint of the following drink given every two or three hours, till several loose stools are procured; and then it should be given only night and morning, till the disorder is removed.

TAKE sena three ounces, salt of tartar A cooling half an ounce; infuse in a quart of boiling purging water an hour or two; then strain off, and drink. add two ounces of lenitive electuary, and four of Glauber salts.

If this disorder is not removed by these means, but the inflammation and fever increase, attended with a discharge of the flesh coloured water above described, the event will most probably be fatal: and the chief thing to be depended on now must be a strong decoction of Jesuits bark, given to the quantity of a pint every three hours, with a gill of red port wine.

A quart of the same may be used for a glyster, with two ounces of Venice turpentine, strength- dissolved with the yolks of two eggs, an ounce ening of glyster.

of diascordium, and a pint of red wine, and given twice a day: if the horse recovers give two or three mild rhubarb purges.

To a horse of little value, give the following; which in these cases has been found successful.

An alterative ball.

TAKE diapente one ounce, diascordium half an ounce, myrrh in powder two drams; make it into a ball with two drams of oil of amber, to be given twice or thrice a day.

The dry gripes.

The last we shall describe is the dry gripes, or the cholic which arises often from costiveness: it is discovered by the horse's frequent and fruitless motion to dung, the blackness and hardness of the dung, the frequent and quick motion of his tail, the high colour of his urine, and his great restlessness and uneasiness.

The cure.

In this case the straight gut should be examined and emptied with a small hand oiled properly for that purpose; the emollient oily glyster should be thrown up twice a day; and the above purging drink given, till the bowels are unloaded, and the symptoms removed.

The diet for a horse in the gripes, should be scalded bran, warm water-gruel, or white water, made by dissolving four ounces of gum arabic in a quart of water, and mixing it with his other water.

Some proper cautions and remarks.

From this history, and division of gripes and cholics, with their different treatment, it appears how absolutely necessary it is they should be well understood, in order to be managed skilfully: it is plain too, that violent

lent hot medicines should in every species of this disorder be guarded against, and given with great caution and discretion, even in the first kind of flatulent cholic, where indeed they can only be wanted yet too often, when prepared by the farriers, with oil of turpentine, geneva, pepper, and brine, &c. they even increase that disorder, by stimulating the neck of the bladder too forceably; heating the blood, and inflaming the bowels, till a mortification is brought on them. These are in general the constant appearance of horses that die of this disorder, whose bowels being examined for that purpose, have been found inflamed, full of red and livid spots, sometimes quite black, crisped with extreme heat, and rotten.

C H A P. XIV.

Of the Lax, and Scouring, with other Disorders of the Stomach, and Bowels.

IT is sometimes a nice matter to form a proper judgment when to controul or encourage a looseness, but these general rules may be a direction: If a healthy full horse, on taking cold, or upon hard riding, overfeeding, eating unwholesome food, or with a slight fever, should have a moderate purging by no means think of stopping it; but rather encourage it with an open diet, and plenty of warm gruel: but if it continues long, with gripings, the mucus of the bowels coming away, and the horse losing his appetite and flesh, it is then high time to give him proper

proper medicines: if he voids great quantities of slime and greasy matter, give him the following drench, and repeat it every other day for three times.

An opening drink.

TAKE lenitive electuary and cream of tartar, of each four ounces; yellow rosin finely powdered, one ounce; and four ounces of sweet oil: mix with a pint of water gruel.

The following alterative ball alone has been found successful for this purpose, when twice a week, with scalded bran and warm gruel.

An alterative ball.

TAKE succotrine aloes half an ounce, diapente one ounce; make into a ball with the juice of Spanish liquorice dissolved in water, and a spoonful of oil of amber.

To this may be added two drams of myrrh, and a dram of saffron; and (where it can be afforded) half an ounce of rhubarb.

When the purging is attended with a fever, rhubarb should be first given, to the quantity of half an ounce, with an ounce and half of lenitive electuary: at night, after the working, give half an ounce or more of diascordium in a pint of red wine mulled with cinnamon, and repeat it every day, and the rhubarb ball once in two or three.

But if the distemper increases, the horse's flanks and belly look full and distended, and he appears griped and in pain, let this glyster be given, and the quantity of diascordium increased to an ounce, in his night-drink.

TAKE

TAKE camomile flowers one handful, red A restrim-
roses half a handful, pomegranate and gent glyf-
balaustines, of each an ounce; boil in ter.
two quarts of water to one, strain off and
dissolve in it two or three ounces of
diascordium, and one of mithridate; to
which may be added a pint of port wine:
repeat it once a day.

If the flux continues violent, give an ounce A restrin-
of roach allum, with an ounce and a half of gent
bole, twice a day; or dissolve double this drink.
quantity with two ounces of diascordium, and
the cordial ball in two quarts of hartshorn
drink; to which may be added a pint of
port: and give the horse three or four times
a day a pint of this drink.

When the discharge is attended with an
acid mucus or slime, the griping and pains
are very severe; the common lining of the
bowels being washed away; in this case the
following glysters should frequently be in-
jected warm.

TAKE of tripe-liquor or milk two quarts,
oil of olives half a pint, the yolks of six
eggs well broke, and two or three oun-
ces of coarse sugar.

Some horses having naturally weak sto-
machs and bowels, throw out their aliment of indi-
indigested, their dung is habitually soft, and gestion.
of a pale colour, they feed poorly, and get
no flesh; to remedy this complaint, give the
following purge two or three times, and then
the infusion to the quantity of a pint every
morning.

TAKE

The
stomach.
purge.

TAKE succotrine aloes six drams, rhubarb powdered three drams, myrrh and saffron each a dram: make into a ball with any syrup.

The
stomach
drink.

TAKE zedoary, gentian, winters bark, and orange peel, of each two ounces; pomegranate bark and balaustine, of each an ounce; camomile flowers and centaury, each a handful; cinnamon and cloves, each an ounce: infuse in a gallon of port or strong beer.

The
bloody
flux de-
scribed.

The bloody flux is a distemper horses are not very subject to; however as it sometimes does occur, whenever blood is discharged, attended with gripings, and great pain in the bowels, if the flux is not speedily restrained, the horse probably may soon be lost; we recommend therefore the following glyster and drink for that purpose.

A restrin-
gent glyf-
ter.

TAKE oak bark four ounces, tormentil root two ounces, burnt hartshorn three ounces; boil in three quarts of forge water to two: strain off, and add two ounces of diascordium, four ounces of starch, and half a dram of opium.

A glyster may also be prepared with the same quantity of fat broth, starch and opium, in order to plaister over the coats of the bowels, and abate their violent irritations. Also,

A re-
stringing
drink.

TAKE soft chalk two ounces, mithridate or diascordium one ounce, powder of Indian

Indian root half a dram, liquid laudanum fifty or sixty drops; dissolve in a pint of hartshorn drink, and add to it four ounces of cinnamon water, or red wine; give it twice a day.

Gum arabic, dissolved in hartshorn drink, or in common water, should be the horse's usual drink.

It may be necessary in this place to observe, A necessity that those scourings that succeed long continued sicknesses, such as farcies, putrid fevers, or an inflamed state of blood, where proper bleedings have been neglected, in general end fatally; especially if the discharge is a fetid slime, of a dirty brown colour like brine; and the same matter runs from their noses: for in such cases the texture of the blood is dissolved, and the whole mass of fluids is become putrid, and runs off through these outlets: and as they resemble the colliquative diarrhæas that terminate consumptive cases in the human body, so like them also are they incurable.

When horses are apt to be costive, from whatever cause it arises, gentle openers should be given, such as cream of tartar, Glauber salts, and lenitive electuary; four ounces of any two of these dissolved in warm ale, whey, or water, given every other morning for two or three times will answer this purpose; especially if assisted by an oily emollient glyster, prepared with a handful of salt: scalded bran, or barley with an ounce of fenugreek, and linseed, occasionally given, will prevent this complaint: But where it is constitutional, and proceeds from the force of digestion in the stomach and guts, as

Observation.

sometimes happens, and the horse is otherwise in perfect health, no inconvenience will arise from it; and it is observed that such horses are able to endure great fatigue and labour.

C H A P. XV.

Of WORMS and BOTS.

The different kinds **A**UTHORS have described three different sorts of worms that affect horses, of worms *viz.* *Bots*, which young horses are often troubled with in the spring: the *Rotundi*, or those resembling earth-worms; and the *Ascarides*, or those about the size of the largest sewing needle, with flat heads.

Bots in the stomachs The bots which breed in the stomachs of horses, and are sometimes the cause of convulsions, appear to be very large maggots, described. composed of circular rings, with little sharp prickly feet along the sides of their bellies (like the feet of hog-lice) which by their sharpness (like the points of the finest needles) seem to be of use to fasten them to the part where they breed and draw their nourishment, and to prevent their being loosened from such adhesion, before they come to maturity. The eggs from whence these bots are produced, are dispersed in clusters all round the lower orifice of the stomach, and are laid under the inner coat, or thin membrane of the stomach; so that when these animals come to form, and life, they burst through this inner coat with their breech and tail straight outwards, and their trunks so fixed into the muscular, or fleshy coat of the stomach,

stomach, that it sometimes requires a good pull to disengage them: from the blood of this last coat they draw their nourishment, which they suck like so many leeches, every one ulcerating and purfing up the part where it fixes like a honey-comb; and they often make such quick havock, as to destroy the horse.

The symptoms of worms are various. The The signs
bots, that many horses are troubled with in of worms.
the beginning of the summer, are always seen
sticking to the straight gut, and are often thrust
out with the dung, with a yellowish coloured
matter like melted sulphur; they are no ways
dangerous there, but are apt to make a horse
restless and uneasy, and rub his breech against
the posts. The season of their coming is u-
sually in the months of *May* and *June*, after
which they are seldom to be seen, and rarely
continue in any one horse above a fortnight
or three weeks. Those that take their lodg-
ment in the stomach, are extreme dangerous
by causing convulsions; and are seldom dis-
covered by any previous signs before they
come to life, when they throw a horse into
violent agonies. *Vide* Convulsions. The o-
ther kinds are more troublesome than dan-
gerous; and are known by the following
signs: the horse looks lean and jaded, his hair
stares as if he was surfeited, and nothing he
eats makes him thrive; he often strikes his
hind feet against his belly, is sometimes grip-
ed but without the violent symptoms that at-
tend a cholic or strangury; for he never rolls
and tumbles, but only shews uneasiness, and
generally lays himself down quietly on his
belly for a little while, and then gets up and
falls.

falls a feeding; but the surest sign is when he voids them with his dung.

The cure of bots. For the cure of bots in the stomach we have already taken notice to be, giving calomel in large quantities, and repeating it at proper intervals; Æthiops mineral, or some of the undermentioned forms may be given afterwards.

But bots in the straight gut may be cured by giving the horse a spoonful of savin cut very small, once or twice a day in his oats or bran, moistened; and three or four cloves of garlick may be added to advantage. Give also an aloetic purge between whites; the following stands recommended.

A purge for worms.

TAKE fine succotrine aloes ten drams; fresh jalap, one dram; aristochia, or birthwort, and myrrh powdered, of each two drams; oil of savin and amber, of each one dram; syrup of buckthorn enough to form into a ball.

The general cure of worms. But, as the source of worms in general proceeds from a vitiated appetite and a weak digestion, recourse must first be had to mercurials, and afterwards to such things as are proper to strengthen the stomach, promote digestion, and, by destroying the supposed ova, prevent the regeneration of these animals.

Mercurial purges proper. Thus, two drams of calomel may be given with half an ounce of diapente, and mixed up with conserve of wormwood over night; and the next morning the above purge: these may be repeated in six or eight days. Or the following mercurial purge may be given, which will be less troublesome, and no less efficacious.

TAKE

TAKE crude quicksilver, two drams; A mercu-
Venice turpentine, half an ounce; rub rial ball.
the quicksilver till no glistening appears;
then add an ounce of aloes, a dram of
grated ginger, thirty drops of oil of sa-
vin, and a sufficient quantity of syrup
of buckthorn to make a ball.

One of these balls may be given every six
days, with the usual precautions in regard to
mercurial physick.

The various preparations of antimony and Various
mercury must be given several weeks toge- worm me-
ther, in order to get entire riddance of these dicines re-
vermin. The Æthiops mineral may be given commend-
to the quantity of half an ounce a day; the ed.
mercurius alkalifatus to two drams a day, in-
corporated with a bit of cordial ball. The
cinnabar powders, as directed in the farcy,
are no less effectual: and when worms are
bred from high feeding, or unwholesome
food; rue, garlick, tansy, favin, box, and
many other simples, may be given success-
fully, being for that purpose mixed with their
food; as also, cut tobacco, from half an
ounce to an ounce a day.

As the generation of worms perhaps prin- Of bad di-
cipally proceeds from a weak stomach, and gestion.
bad digestion, if the horse be of a tender
constitution, and a bad feeder, the following
bitter drink should be given to strengthen his
stomach, and mend his digestion; which will
prevent the formation of these animals, in-
terposing now and then a gentle stomach
purge, prepared with an ounce and half
of hiera picra made up into a ball, with syrup
of buckthorn.

TAKE

A stomach
drink.

TAKE gentian root, zedoary and galangals, of each two ounces; camomile flowers, and tops of centaury, of each two handfuls; Jesuits bark powdered, two ounces: filings of iron half a pound; juniper berries four ounces: infuse in three gallons of ale for a week, shaking the vessel now and then: and give a pint of this night and morning.

To answer this purpose also, an ounce of filings of steel finely powdered, has been successfully given every day for a fortnight, or longer, in the horses corn.

C H A P. XVI.

Of the YELLOWS or JAUNDICE.

The
symptoms
of the
jaundice
described.

HORSES are frequently subject to this distemper; which is known by a dusky yellowness of the eyes; the inside of the mouth and lips, the tongue and bars of the roof of the mouth, looking also yellow. The horse is dull, and refuses all manner of food; the fever is slow, yet both that and the yellowness increase together. The dung is often hard and dry, of a pale yellow, or light pale green. His urine is commonly of a dark dirty brown colour, and when it has settled some time on the pavement, it looks red like blood. He stales with some pain and difficulty; and if the distemper is not checked soon grows delirious and frantic. The off side of the belly is sometimes hard and distended

ended; and in old horses, when the liver has been long diseased, the cure is scarce practicable, and ends fatally with a wasting diarrhæa: but when the distemper is recent, and in young horses, there is no fear of a recovery, if the following directions are observed.

First of all bleed plentifully; and give the laxative glyster, p. 20. as horses are apt to be very costive in this distemper: and the next day give him this purge. The cure.

TAKE of Indian rhubarb powdered, one ounce and a half; saffron two drams, for the succotrine aloes six drams, syrup of buck-thorn a sufficient quantity. A purge for the

If the rhubarb should be found too expensive, omit it, and add the same quantity of cream of tartar, and half an ounce of Castile soap, with four drams more of aloes. This may be repeated two or three times, giving intermediately the following balls and drink.

TAKE of Æthiops mineral, half an ounce; millepedes the same quantity, Castile soap one ounce: make into a ball, and give one every day, and wash it down with a pint of this decoction. The opening ball.

TAKE madder root and turmeric, of each four ounces; burdock root sliced half a pound; Monk's rhubarb four ounces; liquorice sliced two ounces; boil in a gallon of forge water to three quarts; strain off, and sweeten with honey. The opening drink.

Balls of Castile soap and turmeric may be given also for this purpose, to the quantity of three

three or four ounces a day; and will in most recent cases succeed.

Mercurials sometimes necessary.

By these means the distemper generally abates in a week; which may be discovered by the alteration in the horse's eyes and mouth; but the medicines must be continued till the yellowness is entirely removed. Should the distemper prove obstinate, and not submit to this treatment, you must try more potent remedies, *viz.* mercurial physick, repeated two or three times at proper intervals; and then the following balls:

Alterative balls for the jaundice.

TAKE salt of tartar two ounces, cinnabar of antimony four ounces, live millepedes and filings of steel, of each three ounces; saffron half an ounce; Castile or Venice soap half a pound: make into balls of the size of a pullet's egg with honey, and give one night and morning, with a pint of the above drink.

It will be proper on his recovery to give two or three mild purges, and if a full fat horse to put in a rowel.

C H A P. XVII.

Of the Disorders of the Kidneys and Bladder.

The symptoms of hurts in the kidneys.

THE signs of the *kidneys* being hurt or affected, are a weakness of the back and loins, difficulty of staling, faintness, loss of appetite, and deadness in the eyes; the urine is thick, foul, and sometimes bloody, especially after a violent strain. A horse diseased in his kidneys can seldom back, that is, move straight

straight backwards, without pain, which is visible as often as he is put to the trial: the same thing is observable indeed in horses, whose backs have been wrung and wrenched, but with this difference, that in the latter, there is seldom any defect or alteration in the urine, except that it is higher coloured.

Bleeding is the prime remedy, and that plentifully, in order to prevent inflammation; and the more so, if a fever attends a difficulty in staling, for then we may suspect the kidneys already inflamed. A rowel in the belly has been found useful, and the following balls may be given twice or thrice a day, with a pint of marshmallow decoction, in which half an ounce of gum arabic is dissolved, with an ounce of honey. The remedy.

TAKE lucatellus balsam one ounce, spermaceti six drams, sal prunellæ half an ounce; mix into a ball with honey: if the urine is bloody, add half an ounce of japan earth. A strengthening ball.

Should the fever continue, bleed largely, give emollient glysters, and the cooling opening drink, p. 35. till it abates.

If the urine passes with difficulty and pain, notwithstanding these means, give this ball, and repeat it twice or thrice a day, till the horse stales freer and without pain, his urine becomes of a right consistence, and is free from any purulent settlement.

TAKE balsam of copivi, or Strasboursch turpentine, and Venice soap of each one ounce; nitre six drams, myrrh powdered two drams; make into a ball with honey.

F

ney

ney and wash it down with the marsh-mallow decoction.

Observation.

But if this method should not be successful, and the urine continues turbid, grows coffee coloured or fetid, the horse losing his appetite and flesh; it is a sure sign of ulceration in the kidney; which if the above remedies do not soon remove, you may depend on it the horse will go into a consumption, and is incurable.

The causes of suppression of urine.

As a suppression of urine arises sometimes from an inflammation of the kidney; so at others from a paralytic disorder, disabling them in their office of separating the urine from the blood: In the latter case the bladder is usually empty, so that a horse will make no motions to stale and if he continues a few days in this condition, his body will swell to a great degree, breaking out in blotches all over, and death will soon close the scene.

The cure.

If it arises from inflammation, bleed largely, and treat the horse as above recommended; but if not, give stimulating glysters, and strong diureticks, such as the following balls once in four hours; for if a horse stales not in thirty hours, his danger must be great.

A stimulating diuretic ball.

T A K E juniper-berries powdered one ounce, sal prunellæ six drams, ætherial oil of turpentine half an ounce, camphor one dram, oil of juniper two drams; make into a ball with honey, and give after it three or four horns of the marsh-mallow decoction and honey.

Or,

T A K E squills powdered two or three drams, nitre half an ounce, or six drams; make into a ball with honey.

Or,

Or,

The following, which is more forcing, and should be given with caution.

TAKE cantharides well dried, from one scruple to half a dram; camphor dissolved in oil of almonds, from one dram to two; nitre and Venice soap, of each an ounce; mix into a ball with syrup of marshmallows. Another ball more stimulating.

When this last ball is given, the horse should be made to drink plenty of water with gum arabic dissolved in it; the following glyster may also be given at the same time.

TAKE of Barbadoes aloes two ounces; A stimulant the same quantity of Venice turpentine beat up with the yolks of two eggs; jalap powdered two drams; juniper and bay-berries, each an handful, bruised and boiled in two quarts of a decoction of mallows; strain off and mix by degrees with the above, to which add a pint of linseed oil. A glyster.

If the complaint is not removed by these means, rub the horse's reins well with two parts of oil of turpentine, and one of oil of amber; and apply a poultice of garlick, horse-radish, mustard seed, camphor, and green soap, spread on thick cloth, over them. Give the horse also two drams of calomel over night, and a moderate purge the next morning. These perhaps, are the chief and best remedies that can be given in this generally fatal disorder. An embrocation and stimulating poultice.

When the *strangury* in a horse does not arise from wind, or dung pressing on the neck of treated.

of the bladder (as we observed in the chapter of cholick) the cause is from inflammation, or too long a retention of the urine. Such horses make frequent motions to stale, stand wide and straddling, are full and have their flanks distended. In this case bleed largely; give the following drink, and repeat it every two hours, for two or three times, till the horse is relieved.

A drink
for the
strangury.

TAKE Venice turpentine broke with the yolk of an egg one ounce, nitre or sal prunellæ six drams, half a pint of sweet oil, and a pint of white wine.

If this drink should not have the desired effect, the diuretic ball above mentioned may be given in the same manner, omitting the myrrh.

Give the horse plenty of the marshmallow decoction, in a quart of which dissolve an ounce of nitre and gum arabic, and two of honey.

Adiabetes
how treat-
ed.

Horses subject to a *diabetes*, or profuse stallowing, if old, or of a weak constitution, are seldom cured; they soon loose their flesh and appetite, grow feeble, their coat staring, and they die rotten. Of a young horse there is more hopes; but he must not be indulged with too much water, or moist food. Give him the following:

A drink
for a dia-
betes.

TAKE Jesuits bark four ounces, bistort and tormentil root, of each two ounces, gum arabic eight ounces: boil in two gallons of lime-water to the consumption of half, and give a pint three times a day.

Let

Let the horse drink two or three quarts a day of lime-water; and if these medicines should not succeed, give a quart of strong alum posset, three or four times a day.

This method is proper also for a horse who stales blood; or the following balls may be given for that purpose, if the bleeding is profuse.

TAKE bole armoniac one ounce, japan earth half an ounce, roch allum two drams, elixir of vitriol one dram; make into a ball with conserve of roses, and give it every six hours. Balls for
pissing
blood.

As this disorder generally proceeds from too violent exercise, over straining, &c. repeated bleedings in small quantities are absolutely necessary, till the mouths of the vessels close up.

C H A P. XVIII.

Of Molten-Grease.

BY molten-grease is meant a fat or oily discharge with the dung, and arises from Grease, a colliquation or melting down of the fat of what the horse's body, by violent exercise in very hot Weather. It is always attended with a fever, heat, restlessness, starting and tremblings, great inward sickness, shortness of breath, and sometimes with the symptoms of a pleurisy. His dung will be extremely greasy, and he will fall into a scourging; his blood will have a thick skin of fat over it when cold, of a white or yellow hue, but chiefly the latter;

the congealed part or sediment is commonly a mixture of size and grease, which makes it so extreemly slippery, that it will not adhere to the fingers, and the small portion of serum feels also slippery and clammy. The horse soon loses his flesh and fat, which probably is dissolved and absorbed into the blood; and those that survive this shock, commonly grow hide-bound for a time, their leggs swelling both before and behind, and continue in this state till the blood and juices are rectified; and if this is not done effectually, the farcy, or some obstinate surfeit, generally follows, very difficult to remove.

The cure. In the first place bleed plentifully, and repeat it for two or three days successively in smaller quantities; two or three rowels should also be immediately put in, and the cooling emollient glysters, p. 35. daily thrown up to abate the fever, and drain off the greasy matter from the intestines. By the mouth give plenty of warm water, or gruel, with cream of tartar, or nitre, to dilute and attenuate the blood; which in this case is greatly disposed to run into grumes, and endanger a total stagnation.

When the fever is quite gone off, and the horse has recovered his appetite, gentle aloetic purges should be given once a week for a month or six weeks, in order to bring down the swelled legs; but if the purgative ingredient does not exceed half an ounce or six drams of fine aloes, it only opens the belly gently; and, with the other medicines joined with it, passes into the blood, acts as an alterative, and operates both by urine and perspiration; as will appear by the horse's staling plentifully; and the kindly feel of his skin.

To

To this end give the following, which repeated for some time, will intirely remove this disorder.

TAKE of succotrine aloes six drams, of An alt-
gum guaiacum powdered half an ounce, rative
of diaphoretic antimony, and powder of purge.
myrrh, of each two drams; make into
a ball, with syrup of buckthorn.

Or it may be prepared with an ounce of
aloes, six drams of diapente, and a spoonful
of oil of amber.

These will seldom take a horse from his
business above two or three days in a week;
neither will he lose his flesh or appetite with
them; but on the contrary, mend in both;
which cannot be obtained by any other me-
thod of purging; and give this greatly the
preference in many cases.

Two ounces of nitre mixed up into a ball **Alternative**
with honey, and a dram of camphor, will balls.
also be found an excellent medicine for this
purpose, as it will powerfully attenuate the
blood, and promote the due secretions; to
which end it should be given every day for a
fortnight or three weeks.

C H A P. XIX.

Of Surfeits, Mange, and Hide-Bound.

Surfeits arise from various causes; but are
commonly the effects of some diseases not
attended to, or that have been ill cured.

A horse is said to be surfeited, when his Surfeits
coat stares, and looks rusty and dirty, though described.

proper pains has not been wanting to keep him clean. The skin is full of scales and dander that lays thick and mealy among the hair, and is constantly supplied with a fresh succession of the same, for want of due transpiration. Some horses have hurdles of various sizes, like peas or tares: some have dry fixed scabs all over their limbs and bodies; others a moisture attended with heat and inflammation; the humours being so sharp, and violently itching, that the horses rub so incessantly, as to make themselves raw. Some have no eruptions at all, but an unwholesome look, and are dull, sluggish and lazy: some appear only lean and hide-bound: others have flying pains and lameness, resembling a rheumatism: so that in the surfeits of horses, we have almost all the different species of the scurvy, and other chronical distempers.

The cure. The following method is usually attended with success in the dry species. First take away about three or four pounds of blood; and then give the following mild purge, which will work as an alterative, and should be repeated once a week or ten days for some time.

An alterative purge TAKE succotrine aloes six drams or one ounce; gum guaiacum half an ounce; diaphoretic antimony, and powder of myrrh, of each two drams: make into a ball with syrup of buckthorn.

In the intermediate days an ounce of the following powder should be given morning and evening in his feeds.

TAKE

TAKE native cinnabar, or cinnabar of The
antimony, finely powdered, half a alterative
pound; crude antimony, in fine pow-powders.
der, four ounces; gum guaiacum, also
in powder, four ounces : make into six-
teen doses, for eight days.

This medicine must be repeated till the
horse coats well, and all the symptoms of
surfeit disappear. If the horse is of small va-
lue, two or three common purges should be
given, and half an ounce of antimony, with
the same quantity of sulphur, twice a day,
or the alterative balls with camphor and nitre,
as directed in the preceding chapter.

If the little scabs on the skin do not peel
off, anoint them with the mercurial oint-
ment; during the time of using which, it
will be proper to keep the horse dry, and to
give him warm water. This ointment
properly rubbed into the blood, with the
assistance of purging physick, has frequently
cured these kind of surfeits, without any
other assistance.

The wet surfeit, which is no more than a The moist
moist running scurvy, appears on different surfeit de-
parts of the body of a horse, attended some-scribed.
times with great heat and inflammation; the
neck oftentimes swells so in one night's time,
that great quantities of a hot briny humour
issue forth, which, if not allayed, will be
apt to collect on the poll or withers, and pro-
duce the poll-evil or fistula. This disease also
frequently attacks the limbs, where it proves
obstinate and hard to cure: and in some horses
shews itself spring and fall.

The cure.

In this case bleed plentifully, avoid externally all repellors, and give cooling physick twice a week; as, four ounces of lenitive electuary, with the same quantity of cream of tartar; or the latter, with four ounces of Glauber salts, quickened, if thought proper, with two or three drams of powder of jalap, dissolved in water gruel, and given in a morning fasting.

After three or four of these purges, two ounces of nitre made into a ball with honey, may be given every morning for a fortnight; and if attended with success, repeated for a fortnight longer.

The powders above mentioned may also be given with the horse's corn; or a strong decoction of guaiacum shavings, or logwood may be given alone to the quantity of two quarts a day. These, and indeed all alterative medicines, must be continued for a long time, where the disorder proves obstinate.

Hide
Bound,
how
treated.

The diet should be cool and opening, as scalded bran or barley; and if the horse is hide-bound, an ounce of fenugreek seeds should be given in his feeds for a month or longer; and, as this disorder often proceeds from worms, give the mercurial physick too, and afterwards the cinnabar powders, as above directed; but as in general it is not an original disease, but a symptom only of many, in the cure, regard must be had to the first cause: Thus as it is an attendant on surfeits, fevers, worms, &c. the removal of this complaint must be variously effected.

The
mange
described.

In a mangy horse the skin is generally tawny, thick, and full of wrinkles, especially about

about the mane; the loins and tail, and the little hair that remains in those parts stands almost always straight out or bristly: the ears are commonly naked and without hair, the eye and eye-brows the same; and when it affects the limbs, it gives them the same aspect; yet the skin is not raw, nor peels off, as in the hot inflamed surfeit.

Where this distemper is caught by infection, if taken in time it is very easily cured; and I would recommend a sulphur ointment as most effectual for that purpose, rubbed in every day. To purify and cleanse the blood, give antimony and sulphur for some weeks after. There are a great variety of external remedies for this purpose, such as train oil and gun-powder, tobacco steeped in chamber-lye, &c. But when this disorder is contracted by low feeding and poverty of blood, the diet must be mended, and the horse properly indulged with hay and corn. The following ointments are effectually used for this disorder, rubbed into the parts affected every day.

TAKE powdered brimstone, train oil, Oint-
and tar, of each equal quantities; to ments
which may be added ginger or white for the
hellebore. mange.

Or,

TAKE sulphur vivum half a pound,
crude sal armoniac one ounce, hogs
lard, or oil a sufficient quantity to form
into an ointment.

To these, occasionally *may* be added, a
third part of mercurial ointment; but as sul-
phur is in general allowed, to be the *specific*
in

Observation.

in the *Itch*; and being found both more safe, and efficacious than mercury; so we apprehend it will sufficiently answer the purpose here; for as this disorder seems best accounted for by *Leeuwenhoek*, from certain small insects he discovered in the pustles, by the microscope; so it seems as if they were destroyed, by the steams of brimstone, tho' only raised by the heat of the body; for in the human body, the itch may be cured by partial sulphurous unctions, on the legs only; but where the mange proves obstinate in horses, let the parts be washed with the sublimate water, before the application of the ointment, and subjoin the internal use of sulphur, in order to diffuse the steams more certainly through the skin; there being reason to believe, as in the itch, that the animalcula may sometimes lie too deep to be thoroughly destroyed by external applications only.

CHAP. XX.

Of the FARCIN or FARCY.

The farcy described.

THE true farcy is properly a distemper of the blood vessels, which generally follows the tract of the veins, and when inveterate, thickens their coats and integuments, so that they become like so many chords. I shall not describe the different sorts of farcys, seeing they are only degrees of one and the same distemper; but proceed to paint the distemper by its symptoms, which are pretty manifest to the eye.

At

At first one or more small swellings, or The round buds like grapes or berries, spring out symptoms. over the veins, and are often exquisitely painful to the touch; in the beginning they are hard, but soon turn into soft blisters, which, when broke, discharge an oily or bloody ichor, and turn into very foul and ill disposed ulcers. In some horses it appears on the head only; in some on the external jugular; in others on the plate vein, and runs downwards on the inside of the fore-arm towards the knee, and very often upwards towards the brisket; in some the farcy shews itself on the hind parts, about the pasterns, and along the large veins on the inside of the thigh, rising upwards into the groin, and towards the sheath; and sometimes the farcy makes its appearance on the flanks, and spreads by degrees towards the lower belly, where it often becomes very troublesome.

When the farcy appears on the head only, When it is easily cured; especially when it is seated most favourable. on the cheeks and forehead, the blood vessels being here small: but it is more difficult when it affects the lips, the nostrils, the eyes, and kernels under the jaws, and other soft and loose parts, especially if the neck vein becomes chorded. When it begins on the outside of the shoulder or hips, the cure is seldom difficult; but when the farcy arises on the plate vein, and that vein swells much, and turns chorded, and the glands or kernels under the arm-pit are affected, it is hard to cure; but more so when the crural veins within side of the thigh are chorded, and beset with buds, which affect the kernels of the groin, and the cavernous body of the yard. When the farcy begins on the pasterns or lower

When malignant.

General
specificks
of little
use.

lower limbs, it often becomes very uncertain, unless a timely stop be put to it; for the swelling in those dependant parts grow so excessively large in some constitutions, and the limbs so much disfigured thereby with foul sores and callous ulcerations, that such a horse is seldom fit for any thing afterwards, but the meanest drudgery: but it is always a promising sign, wherever the farcy happens to be situate, if it spreads no further. It is usual to affect only one side at a time, but when it passes over to the other, it shews great malignancy; when it arises on the spines, it is then for the most part dangerous, and is always more so to horses that are fat and full of blood, than to those that are in more moderate case. When the farcy is epidemical, as sometimes happens, it rises on several parts of the body at once, forms nasty foul ulcers, and makes a profuse running of greenish bloody matter from both nostrils; and soon ends in a miserable rot.

From this description of the farcy it will appear how greatly those may be disappointed who depend on some single specific drink or ball for a certain cure; for the symptoms are sometimes so favourable, that it is easily conquered by a very simple management; and when it arises superficially upon the smaller vessels, it will often go off, with moderate labour, without any other means than bleeding. Such instances as these may easily give a reputation to things of no great efficacy, and bring them into esteem: but whoever has acquired any true notion of the farcy, will know that this distemper is not to be conquered but by such things as are fitly adapted to the various symptoms that

that occur in the different stages of it. To avoid therefore the perplexity that arises from the various complications so usual in the farcy, we shall consider it in its different states or degrees, *viz.* when it seizes only the smaller vessels; when the larger veins are chorded, and the feet, pasterns, and flanks affected: and lastly, when the farcy beginning on one side only breaks out on the other also, and affects the whole body.

When the farcy makes its first appearance on the head, it rises on the cheeks and temples, and looks like a net-work, or small creeping twigs full of berries. Sometimes it inflames the eye, and sometimes little blisters or buds run along the side of the nose. It arises often on the outside of the shoulder, running along the small veins with heat and inflammation: and sometimes a few small buds appear near the withers, and on the outside of the hip. In all these appearances the disease being superficial, and affecting only the smaller vessels is easily conquered by the following method, when taken in time; for the simplest farcy, if neglected, may degenerate into the worst sort.

This distemper then being of an inflammatory nature, and in a particular manner affecting the blood vessels, must necessarily require large bleeding, particularly where the horse happens to be fat and full of blood. This always checks the beginning of a farcy, but is of small service afterwards; and if a horse is low in flesh, the loss of too much blood sometimes proves injurious. After bleeding, let the horse have four ounces of cream

cream of tartar and lenitive electuary; which may be given every other day for a week, to cool the blood, and open the body; and then give nitre three ounces a day, for three weeks or a month; and anoint the buds and swellings with the following ointment twice a day.

An ointment for the buds.

TAKE ointment of elder four ounces, oil of turpentine two ounces, sugar of lead half an ounce, white vitriol powdered two drams; mix together in a gallypot.

The buds sometimes by this method are dispersed, leaving only little bald spots, which the hair soon covers again. When they break and run, if the matter be thick and well digested, they will soon be well: but in order to confirm the cure, and to disperse some little lumps, which often remain for some time on the skin without hair, give the liver of antimony for a month; two ounces a day for a fortnight, and then one a day for the other fortnight; by following this method, a farcy which affects only the small vessels, may be stopped in a week or ten days, and soon after totally eradicated.

When the larger veins are affected, the cure is more difficult.

When the farcin affects the larger blood vessels, the cure is more difficult; but let it always be attempted early: therefore on the plate, thigh or neck veins appearing chorded, bleed immediately on the opposite side, and apply the following to the chorded vein.

A liniment to anoint the chorded veins.

TAKE oil of turpentine in a pint bottle six ounces, oil of vitriol three ounces; drop the oil of vitriol into the oil of turpentine by little at a time, otherwise the bottle

bottle will burſt; when it has done ſmoaking, drop in more oil of vitriol, and ſo on till all is mixed.

This mixture is one of the beſt univerſals in a beginning farcy; but where it is ſeated in looſe fleſhy parts, as flanks or belly, equal parts of the oil of vitriol and turpentine are neceſſary.

Rub the parts firſt with a woollen cloth; and then apply ſome of the mixture over the buds, and wherever there is any ſwelling, twice a day. Give the cooling phyſick every other day; and then three ounces of nitre every day for ſome time. This method muſt be continued till the buds digeſt, and the chord diſſolves; and when the ſores run plentifully, the matter digeſts well, and the lips and edges are no ways thick or callous, you may expect a ſpeedy recovery; yet to confirm the cure, and prevent a relapſe, give the liver of antimony or crude antimony, as above directed; and to heal the ſores and ſmooth the ſkin, dreſs with bees-wax and oil.

When the farcy begins on the flanks, or towards the lower belly, it often takes its riſe from a ſingle puncture of a ſharp ſpur. The pain and ſmarting is one ſure ſign to diſtinguiſh the farcy from common accidents: the ſtaring of the hair which ſtands up like a tuft all round the buds or bliſters, and the matter that iſſues from the buds, which is always purulent and of a clammy greaſy conſiſtence, are other certain ſigns. After bathing with the mixture above mentioned till the ulcers are ſmooth and healing, ſhould the ſwelling not ſubſide, to prevent the ſpreading of the buds,

The farcy
on the
flanks, dif-
ficult of
cure.

buds, and to disperse them, bathe with either of these mixtures as far as the centre of the belly; and at the same time give a course of antimonials, as will presently be prescribed.

Discutient
and re-
pelling
washes.

TAKE spirits of wine four ounces, oil of vitriol and turpentine of each two ounces, white wine vinegar or verjuice six ounces.

Or, the following :

TAKE spirits of wine rectified four ounces, camphor half an ounce, vinegar or verjuice six ounces, white vitriol dissolved in four ounces of spring water one ounce; mix together.

The farcy
how dis-
tinguished
from the
grease.

In the lower limbs the farcy lies sometime concealed for a great while, and makes so slow a progress, that it is often mistaken for grease, or for a blow or kick, and goes by the general appellation of a humour settled there. In order to distinguish the one from the other, we shall observe that a kick, or bruise, is generally attended with a sudden swelling, or a contused wound, which for the most part digests easily: The grease is also a smooth swelling that breaks out above the bending of the pasterns backwards; but the farcy begins on the pastern joint usually with one bud, and runs upwards like a knotty crab-tree.

The ge-
neral me-
thod of
cure.

Very simple means has sometimes stopped it, before it has began to spread; a poultice with bran and verjuice bound round the part, and renewed once a day, will often alone succeed; and if proud flesh should arise, touch it with oil of vitriol, or aqua fortis, an hour before

before you apply the poultice; for when the distemper is local, as we suppose it here, it is to be conquered by outward applications.

When the distemper grows inveterate, and resists the above method, and the vessels continue chorded, *Gibson* recommends the following mixture.

TAKE linseed oil half a pint; oil of turpentine and petre, of each three ounces; for an intincture of euphorbium and hellebore, of each two drams; the soldiers ointment two ounces, or oil of bays; oil of origanum half an ounce; double aqua fortis half an ounce: after the ebullition is over, add two ounces of Barbadoes tar.

Rub this into the chorded veins, and wherever there is a swelling, once in two or three days; but if the orifices are choaked up with proud flesh, or the skin so much thickened over the ulcers as to confine the matter, in either case it is necessary to make an opening with a small hot iron, and destroy the proud flesh, after which it may be kept down by touching with oil of vitriol, aqua fortis, or butter of antimony. A salve may also be prepared with quicksilver and aqua fortis, rubbing any quantity of the former with enough of the latter, to the consistence of a liniment; smear the ulcers with this whenever they appear foul, and you will find it preferable to most other eating medicines.

Our farriers after opening the buds, put usually a small quantity of corrosive sublimate or arsenic, which they call coring out the farcy: this may answer where the buds are

Cautions
in regard
to the use
of subli-
mate.

are few, and not situated near large blood vessels, joints or tendons: Others use Roman vitriol, or sublimate and vitriol, in equal quantities: but let it be remembered, that many a horse has been poisoned by these medicines ignorantly used, and in too large quantities; which should be a caution to huntsmen not to suffer their hounds to feed on the carcases of farcy'd horses, as the greatest part of a pack have been poisoned by that means.

Very desperate methods used in the cure of the farcy.

I shall now mention some of the desperate methods, and more violent kind of medicines given by some internally: thus, from four to eight ounces of lapis calaminaris, to which two ounces of tutty finely powdered is added, with other metallic substances, have been given. Some give a pound of barrel soap boiled in stale beer, with savin, rue, and other herbs of that intention:—Others go yet further, being determined to kill or cure, by giving drinks prepared with green vitriol, roach allum, Roman vitriol, oil of vitriol, boiled in chamber lye, with hemp seed, hemlock, and common salt. Those who use nothing but the decoctions or juices of herbs, such as wormwood, rue, or elder particularly, stand a much better chance for a cure, if given in time; but when the distemper is grown inveterate, nothing comes in competition with mercurial and antimonial medicines.

The following balls are proper in every state of the farcy; and when the distemper has been in its infancy, before the skin was much defaced, has often cured it in a week or two, by giving them only once or twice a day: but in an old farcy they should be given for two or three months together.

TAKE

TAKE of native cinnabar, or cinnabar of The alte-
 antimony eight ounces; long birthwort rative
 and gum guaiacum powdered of each balls.
 four ounces: make into a paste with ho-
 ney, and form into balls of the size of a
 large walnut, and roll them in liquo-
 rice-powder.

The tediousness of this course has encour-Mercuri-
 raged the giving of mercurials, and indeed als gene-
 where they are directed with skill, they must rally suc-
 be attended with success; the stronger pre- cessful,
 parations, as the red and white precipitates, when giv-
 and turbith, being combined with sharp sa- en with
 line parts may be hazardous and injurious, skill.
 but the latter given in small quantities have
 been found very successful in such kind of in-
 veterate disorders. Mr. *Gibson* says, he has
 given it to a dram at a dose, where the limbs
 have been greatly swelled; that in forty eight
 hours the sores were all dried up, and the
 limbs reduced; but that it made the horse so
 violently sick for several days, and scoured
 him to such a degree, that it could not be
 repeated.

One would have thought that the success Turbith
 attending this medicine so suddenly might should be
 have encouraged *Gibson* to have made further given in
 trials in smaller quantities, which had he done, small
 it is more than probable he would not have quantities
 been disappointed: for the grand secret in at a time.
 giving mercurials as alteratives, is the intro-
 ducing them into the blood without operat-
 ing on the stomach and bowels; and to do
 this effectually, they must be given in small
 quantities, and so bridled, as to controul their
 force on the first passages; taken in this man-
 ner,

Balls with
turbith
recom-
mended.

ner, they will mix gradually with the blood and juices, and operate both effectually and safely. The method I would recommend is as follows: give one scruple or half a dram of turbith, mixed into a ball with an ounce of Venice soap, every other night for a fortnight, then abstain a week or ten days, and repeat it again. Should this ball purge, or make the horse sick, mix it up with two drams of philonium, or with four or five grains of opium, or camphor; with these restrictions it may be given for some weeks; but should the horse's mouth be found tender or sore, you must refrain giving, till that complaint is removed by gentle purges; and then return to it again in smaller quantities; for as the effects of mercurials, are very different in the different constitutions, both of horses, as well as men; so the quantity must be varied, in proportion to the operation which is not intended here to be sensible, but to work imperceptible on the blood and juices, correcting them as a powerful alterative: during the whole course, particular care should be taken that he gets no cold.

Vide Chap. ALTERATIVE.

An altera- Two ounces of quicksilver divided with an
tive mer- ounce of turpentine, and made up into four
curial ball. balls, with diapente and gum guaiacum, of
each two ounces, and a sufficient quantity of
honey, have for this purpose been successfully
given, one ball twice a week; but gentle pur-
gatives should be interposed, to prevent a sa-
livation, which some horses are very prone to,
on taking mercurials, though in small quan-
tities.

Dr. *Bracken* recommends the knots and
chords to be rubbed with the mercurial oint-
ment

ment before they break, in order to disperse them, and after breaking to dress the sores with equal parts of Venice turpentine and quicksilver; if by these means the mouth should become sore, treat as above.—This method seems to be effectual with proper care.

The following is also recommended by the same gentleman :

TAKE butter of antimony and bezoar mi- An altera-
neral, of each one ounce ; beat up with tive ball.
half a pound of cordial ball, and give the
bigness of a walnut, or three quarters of
an ounce, every day for two or three
weeks, fasting two or three hours after
it.

As most preparations from antimony are of use in the farcy, from two drams of antihæcticum poterii to half an ounce, may be given with a bit of cordial ball, every other day, for some time; for in these obstinate cases the very crasis of the blood must be altered, which can only be effected by degrees, and of course is a work of time.

We shall here take notice of what is called The wa-
the water farcy, which has no resemblance ter farcy,
to a true farcy, either in its cause, symptoms or dropsy.
or effects, but has only obtained this name
through custom and ignorance.

This water farcy then is of two kinds; one The
the product of a feverish disposition, termi- dropsy of
nating on the skin as often happens in epide- two kinds.
mical colds; the other is dropfical, where the
water is not confined to the belly and limbs,
but shews itself in several parts of the body,
by soft swellings yielding to the pressure of
the

the finger. This last kind usually proceeds from foul feeding, or from the latter grass and fog, that often comes up in great plenty with continued cold rains, and breeds a sluggish viscid blood. In the former case I have seen the limbs and whole body enormously swelled and very hard, the belly and sheath greatly distended; which were as surprizingly reduced

Scarifying ed in four and twenty hours by slight scarifi-
the skin, cations within side the leg and thigh with a
sometimes sharp penknife, and three or four strokes on
very effec- the skin of the belly on each side the sheath;
tual. from these scarifications there was a constant
 and surprising large dripping of water, which
 soon relieved the horse; when a few proper
 purges compleated his recovery.

The ge- In the other species of dropsy the curative
neral cure intentions are to discharge the water, recover
of dropfi- the crasis or strength of the blood, and brace
cal disor- up the relaxed fibres throughout the whole
ders. body. To this end, purge once a week or
 ten days; and give intermediately either of
 the following drinks, or balls.

An altera-
tive drink.

TAKE black hellebore fresh gathered two
 pounds; wash, bruise and boil in six
 quarts of water to four, then strain out
 the liquor, and put two quarts of white
 wine on the remaining hellebore, and
 let it infuse warm forty eight hours, then
 strain off, mix both together, and give
 the horse a pint night and morning.

The diu-
retic balls.

TAKE nitre two ounces, squills powdered
 three drams or half an ounce, camphor
 one dram, honey enough to form into a
 ball to be given once a day alone, or
 wash'd

wash'd down with a horn or two of the above drink.

TAKE of the leaves and bark of elder, of A diuretic
each a large handful ; camomile flowers drink.
half a handful, juniper berries bruised
two ounces ; boil in a quart of water to
a pint and a half, to which add honey
and nitre, of each one ounce.

Give this drink every night, or night and morning : and to compleat the cure, and strengthen the whole body, give a pint of the subsequent infusion every night and morning for a fortnight, fasting two hours after it.

TAKE gentian root and zedoary of each A
four ounces ; camomile flowers and the strength-
tops of centaury, of each two handfuls ; ning drink
Jesuits bark powdered two ounces ; ju-
niper berries four ounces ; filings of iron
half a pound : infuse in two gallons of
ale for a week, shaking now and then
the vessel.

Before we close this chapter, we think proper to lay down the symptoms of an incurable farcy, that the owners of such horses may save themselves unnecessary expence and trouble in their endeavours to obtain a cure.

When a farcy by improper applications, The
or by neglect has spread and increased ; or as symptoms
ter long continuance resisted the medicines of an in-
above recommended ; if fresh buds are con- curable
tinually sprouting forth, while the old ones farcy.
remain foul and ill conditioned : if they rise
on the spines of the back and loins ; if the
horse grows hide bound, and runs at the
G nose ;

nose; if abscesses are formed in the fleshy parts between the interstices of the large muscles; if his eyes look dead and lifeless; if he forsakes his food, and scours often, and his excrements appear thin and of a blackish colour, if the plate, or thigh vein continue large and chorded after firing, and other proper applications: these symptoms denote the distemper to have penetrated internally, and that it will degenerate into an incurable consumption: it is most probable also, that the whole mass of fluids are tainted, and become irremediable by art.

C H A P. XXI.

Of Alterative Medicines.

What is **BY** alteratives, or *altering* medicines are meant by **B** to be understood such as having no immediate sensible operation, gradually gain medicines upon the constitution, by changing the humours or juices from a state of distemperature to health. This intention in some cases may perhaps be effected by correcting the acrimony of the juices, and accelerating the blood's motion; and in others by attenuating, or breaking its particles, and dividing those cohesions which obstruct the capillaries, or finer vessels; and so promote the due secretions of the various fluids. It is certain that many have but an indifferent opinion of a medicine, that does not operate externally, and gratify their senses with a quantity of imagined *humours* ejected from the body: but let such people remember that there are good humours as well as bad, which are thrown off together;

together; that no evacuating medicine has a power of selecting, or separating the bad from the good; and consequently that they are thrown out only in a proportionate quantity. These few hints may be sufficient to convince the judicious reader of the great advantages arising from alteratives, and the preference due to them, in most cases over purgatives; unless it could be proved, as already mentioned, that the latter could cull out, and separate from the blood the bad humours solely, leaving the good behind; but this elective power has long been justly exploded as ridiculous and uncertain, since it is plain that all kinds of purging medicines differ only in degree of strength, and operate no otherwise upon different humours, than as they stimulate more or less.

We shall therefore take this opportunity of recommending some alterative medicines, which are not so generally known as they ought to be; and that too on the surest grounds, a proper experience of their good effects in repeated trials. The first then is nitre or purified salt petre, which has long been in great esteem, and perhaps is more to be depended on in all inflammatory fevers than any other medicine whatever: but besides this extensive power of allaying inflammatory disorders, it is now offered as a remedy, taken in proper quantities, as an alterative for surfeits, molten-grease, hidebound, grease-heels, &c. And as it has been known to succeed even in the cure of the farcy, what other distempers in horses, arising from vitiated fluids may it not be tried on, with a strong probability of success? This great advantage will arise from the use of this

medicine over most others, that as its operation is chiefly by urine, it requires no confinement or cloathing; but the horse may be worked moderately throughout the whole course. This medicine has been found equally efficacious (by many trials made in one of our hospitals) in correcting the acrimony of the juices, and disposing the most obstinate and inveterate sores to heal up; and hence probably it came recommended as an alterative to our horses.

Observations on nitre.

One of our greatest physical writers, is very copious in the praise of this medicine, and my Lord *Bacon* had so high an opinion of it, that he believed it would prolong life; 'tis very certain, that it is a great resister of putrefaction, which our very cooks are no strangers to; if then it will preserve the flesh of dead animals, why not the blood and juices of living ones? That it renders them more fluid, may be proved by mixing a solution of it, with blood fresh drawn, which will not only prevent the coagulation, but change its very colour from a dark black, to an elegant florid red, and preserve it so for some time: *Malpighius* has informed us that he injected it into the very blood vessels of a dog, where it intimately mixed with the blood without any detriment, or remarkable alteration, except a more copious discharge of urine; its power also of destroying worms is very remarkable: in short a more useful medicine perhaps scarce exists, and there is no doubt to be made, when it comes into more general use, its own merit, and good effects will sufficiently recommend itself. We should not have presumed to say so much in its favour, were we not thoroughly convinced of its great utility,

utility, and believe it to be in many cases, one of the best, and safest *alteratives* we have. We have already taken notice of its great efficacy in removing fevers, and think that in the beginning of colds, (which are the forerunners of fevers) was this medicine given early, instead of pectoral drinks, or the usual balls, those complaints would be much sooner removed, without incurring any danger of the distemper's settling on the lungs, which the tampering too long with those sort of medicines, too often lays a foundation for: We must confess it would be a difficult undertaking, to persuade most farriers, that their healing drinks, or horse balls, are very improper on these occasions, but more especially when given at first; but gentlemen will readily perceive the force of reason, when they find that the intention here aimed at, is to cool and attenuate in general the whole mass of fluids; by which method, the blood which is now become too thick to circulate freely, through the small vessels of the lungs, (and is the original cause both of the cough, stuffing up, and laborious breathing) is rendered sufficiently fluid for that purpose, by the use of this medicine; as all the secretions are promoted by it, at the same time.

The quantity of nitre given at a time should Nitre how
be from two to three ounces a day; let it be to be gi-
finely powdered, and then mix with it by ven.
little at a time as much honey as will form it
into a ball; give it every morning fasting for
a month; or it may be given at first for a
fortnight only, intermitting a fortnight, and
then repeat it. If it be observed that the
horse shews an uneasiness at the stomach af-
ter taking it, a horn or two of any liquor
G 3 should

should be given after it, or it may be dissolved at first in his water, or mixed with his corn; though the ball where it agrees, is the easiest method of giving.

Besides the mercurial medicines recommended in the farcy, which we have already animadverted on, in very obstinate cases, the following method of giving turbith has been found extreamly successful, after bleeding the horse twice or thrice, if full of blood, and in flesh.

A mercurial alterative.

TAKE turbith mineral one dram, diapente one ounce; make into a ball with honey.

Give one of these balls every other morning for a fortnight; rest a fortnight, and then repeat them in the same manner. During this course the horse should be kept warm, in order to heighten the perspiration; and particular care should be taken that he catches no cold: let him be bled once in ten days about two quarts; and those days the balls are omitted, take him out for half an hour, if the weather is fair, and when he comes in, let him be well curried for an hour; after this course is finished, give him a quart of hemp-seed in his corn every day for a month: but as the horse's mouth will probably be sore, his feed should be boiled oats, barley, and scalded bran.

Mercurials operate uncertainly on horses.

As the operation of mercurials both in men and horses is very precarious, if the quantity above mentioned gripes the horse or purges him, instead of the diapente mix it up with two drams of philonium, or half a scruple of opium or camphor; should it affect his mouth

mouth so much as to render him incapable of eating even soft food, the purging drink should be given him, so as to procure three or four stools every day, and the ball forborne till this complaint is removed. But this medicine I think may in some horses succeed better, by giving the turbith in less quantities, and for a longer time, a scruple every night, or half a dram every other night; which method I think safest to begin with, in order to judge of the horse's constitution; and as I have more particularly explained in the chapter on FARCY. After this course, a strong decoction of guaiacum, or the alterative powders should be given for a month: or lime water may be given for his constant drink, at first mixed with his water, afterwards alone.

The guaiacum decoction may be prepared thus:

TAKE of the shavings of guaiacum two The pound, liquorice root sliced four ounces, sweetning crude antimony, grossly powdered and drink. put into a bag, one pound: boil in three gallons of spring water for an hour, and keep the decoction upon the ingredients in a clean earthen pan for use.

This is both a cheap and efficacious medicine in all foulness of the skin, and very proper to be given after a course of mercurials; for it will sweeten and correct the blood and juices, and, by promoting the secretions, dry up superfluous humidities on particular parts, as in the strangles, all glandular disorders, and old running sores. Four horns full should be given twice or thrice a day, and continued two or three months in obstinate

nate cases, intermitting now and then a week, that the horse may not be cloyed with continual drenching.

When horses take drinks with great reluctance, powders must be given in their feeds; thus crude antimony, or liver of antimony finely powdered, may be given to the quantity of half an ounce, night and morning: but in all surfeits gum guaiacum mixed with antimony is found more efficacious. Thus,

The alterative powders.

TAKE of crude antimony finely powdered, or where it can be afforded, cinnabar of antimony, and gum guaiacum, of each a pound: mix together with an oily pestle to prevent the gum's caking; divide the whole into thirty two doses, viz. an ounce each dose; let one be given every day in the evening feed.

Or,

An alterative ball.

TAKE of cinnabar of antimony; gum guaiacum, and Castile or Venice soap, of each half a pound, salt of tartar four ounces; beat them up into a mass, and give an ounce every day. To these may be added very advantageously, an ounce and a half of camphor.

These are excellent alterative medicines, particularly for surfeited horses: they will rectify the fluids, open the horse's hide, promote the secretions, and make him coat well; they will likewise fuse and thin the blood, and therefore are extremely proper when the juices are too viscid and sizy, which often occasions

casions lameness in various parts; in short these sort of medicines are to be preferred to most others of this kind, as they are given with greater safety, and require no confinement, or particular diet.

They seem well calculated also for running horses, (especially the latter) whose fluids of course, from the violence of their exercise, are often subject to great alterations; which will with more safety, and less inconvenience, be remedied by these means, and a gentle alterative purge given once a week or ten days, than the usual method of treating them with stronger purgatives; which besides disqualifying them for their exercise for some time, will not alone answer this intention, till the blood has been saturated with medicines of this kind.

Æthiops mineral given to the quantity of half an ounce a day, is a very good sweetner and corrector of the blood and juices; but it has been observed, after having been taken a week or ten days, to make some horses flabber, and unable to chew their hay and oats: and the same symptoms have arose, where only two drams of crude mercury has been given, and continued about the same space of time.

Whenever therefore mercurial preparations are given to horses, they should be well attended to, and sufficient intervals be allowed to prevent a flux on the mouth and nose. The reason why these kind of mercurials will flux horses sooner than men, may be owing to the mouths of the lacteals in horses being more open, large, and free than those in men; whose orifices may also be furred up by viscid oily things, to which inconveniencies

Of Alterative Medicines.

horses are not so liable, by reason of their simple diet: besides the horizontal situation of the guts of horses may contribute not a little to it, by preventing the mercury from passing through them so quick as in men; and the depending situation of the horse's head, may occasion its being so soon affected, when the blood is once saturated with mercurial particles.

Impracticable to salivate horses.

But, as it has been found impracticable to carry a horse through a salivation, or even to keep him one week under it, by reason of the great plenitude or fullness brought on all the vessels of the head, so that the horse can neither chew his food, nor swallow liquids, whenever such symptoms appear, the medicine must be laid aside, till by purging, as before mentioned, they are removed.

The following mercurial alterative ball may be given under the above restrictions, in obstinate cases.

An alterative mercurial ball.

TAKE crude mercury one ounce, Venice turpentine three drams; rub them together in a mortar, till the quicksilver is thoroughly divided, and then add of gum guaiacum finely powdered two ounces, diagrydium in powder half an ounce: mix with honey, and divide into eight balls: give one every other night for a month, or longer. During this course, care should be taken that the horse gets no cold, for which it is best prosecuted in summer.

As may also the following antimonials in the like cases:

TAKE

TAKE of the glass of antimony finely powdered two ounces, crocus metallorum finely powdered four ounces, Venice soap six ounces; make into twelve balls with honey, and give one every night.

The great inconveniencies that attend the Purging of horses in the usual manner, makes the following method of giving those kinds of medicines eligible in most cases; for though their operation by the bowels is thereby greatly lessened, yet the other secretions are more advantageously increased; for giving them in small quantities, or combined with alteratives adapted to the case, they pass into the blood, and (as has been before explained) act more powerfully, by breaking the cohesions of the viscid fluids, cleansing the finer vessels, where probably obstructions are formed, than when they act more sensibly on the bowels.

Thus in surfeits, flying lamenesses, &c. give the following mass divided into eight balls; one may be taken twice or thrice a week, according to their operation.

TAKE lenitive electuary eight ounces, jalap and scammony powdered of each one ounce, cinnabar, gum guaiacum and nitre, of each two ounces, camphor half an ounce, syrup of buckthorn a sufficient quantity to form them.

Or,

TAKE aloes six drams; gum guaiacum half an ounce; diaphoretic antimony

Forms of such medicines.

Of Alterative Medicines.

and salt of tartar, of each two drams;
make into a ball with any syrup.

Also,

TAKE the finest succotrine aloes half an ounce, or six drams, cream of tartar half an ounce; powder of jalap and salt of tartar of each one dram, make into a ball with oil of amber.

One of these may be given every week for a month, or six weeks, with scalded bran, and warm water: the first day it will operate by urine, the next day both ways, but very gently by stool, unless it should meet with a redundancy of slime in the bowels.

Or six drams of aloes, with half an ounce of diapente, and salt of tartar, may be given as an alterative purge in molten-grease, &c.

Hiera picra and colocynthida with salt of tartar may be given in the same manner: and for obstructions in the lungs, and to thick winded horses, take the following:

Galbanum, ammoniacum, and assa foetida, of each two drams; fine aloes half an ounce or six drams; saffron one dram; honey a sufficient quantity.

But, as we have already occasionally offered various forms of this kind, we shall avoid giving here any more specimens.

Forms of diet drink A decoction of log-wood, prepared like that of guaiacum, is also successfully given in surfeits.

Lime-water, prepared with shavings of sassaphras and liquorice, is a good diet drink, to sweeten and correct a horse's blood; and may

may be given with the nitre balls for that purpose.

Tar-water also, as has before been hinted, may in many cases be well worth trial: but let it be remembered that all medicines of this kind should be continued a considerable time, in obstinate cases.

C H A P. XXII.

Of HUMOURS.

THE word *Humours* (which has an un-
bounded latitude both in *physick* and *farriery*, and is too often a proper sanctuary for the ignorant to fly to in both professions) seems to be strangely misapplied, and in general but little understood; otherwise it would not be so indeterminately used as it is, when the disorder is not in the fluids, but merely in the vessels.

The term humours but little understood.

Thus it is often affirmed, that *humours* fall down on the limbs, when with more propriety it might be said, they cannot so well rise up, or circulate so freely in perpendicular as in diagonal canals; for the force of the heart is the same, whither to raise a column of blood in an upright or horizontal direction, though it is not the same in respect to the situation of the vessels; for when any animal is erect, the blood vessels in the legs are more on a stretch by far than when he lies down; and if the vessels are in a lax state naturally or relaxed by external injuries, they are not able to propel the fluids forward, and hence from a retarded circulation arises a swelling in the part affected.

Very im- properly said some- times to fall down. Swellings in the legs often owing to relaxed vessels.

Dr.

Dr. *Bracken* (to whom all true lovers of horses are much indebted, for the pains he has taken to explode false notions, and embellish true ones) has endeavoured to set this matter in the clearest light; which indeed he has done to the satisfaction of the unprejudiced, and of every one who can understand, and does not wilfully shut his eyes on so clear a doctrine.

The study
of anat-
omy abso-
lutely ne-
cessary.

It would be to little purpose therefore to enforce it, unless the reader would be at the pains to form to himself a clear idea of the blood's circulation, with the secretions from it; and consider the solids as composed of elastic fibres, or springy threads, which are sometimes in a lax or loose state, and at others in a tight or firm one.

This knowledge would soon convince him, that the extream parts may be swelled, without humours falling down upon them, from a difficulty in the circulation (as before explained) to push on blood in perpendicular columns, or from a laxity of the vessels themselves.

The fal-
ling down
as possible,
of hu-
mours ex-
plained
by a fami-
liar case.

In order to make this doctrine as familiar as possible, let us suppose that a man, or horse, in perfect health, whose blood and juices are in the best condition, receives a violent blow on the leg, the consequence of which is a bruise, and swelling: if the limb of either is kept in a perpendicular situation with little or no motion, the swelling will continue; and we may say, if we please, the *humours* are fallen into it: but change only the position, and continue the limb of either in a supine or level one; the swelling will then soon abate, and the *humours* disappear. In this case where were the *humours* before the

the accident; how came they so suddenly to the injured limb, and so soon to disappear? Swellings Is it not more reasonable to suppose the swelling accounted for from arising from a retarded circulation in the part injured, the vessels by the violence of retarded circulation the blow having lost their tone, and were so preternaturally distended by the stagnant blood, that a free circulation through the part was thereby interrupted; and that this swelling would have continued, had not the obstruction been removed by a different posture, assisted by proper applications? And is Exemplified in it not obvious in dropfical, and other swellings, in the extremities, from lax fibres, dropfical habits, that though the legs shall be enormously swelled, after having been in an erect posture all the day; yet that after laying twelve hours in a supine one, they shall recover their natural shape?

This is by no means intended to prove, The blood and juices often vitiated, that there are no bad humours, or juices, in the blood, or that they do not attend and affect some particular parts; (daily experience would contradict such an assertion, particularly in cancerous, schrophulous, venereal, and scorbutic cases in the human body, and the farcy, surfeits, strangles, &c. in horses) but only to guard against the promiscuous use of the term, and to evince that in many cases where the humours are said to abound, and cause swellings, the fault is in the vessels, which have not force enough to propel the circulating fluids, or a perpendicular column of blood; as often happens to the vessels of the legs and extremities.

Thus we see that a languid circulation, re- Limbs may be swelled without culation, humours.

culatation, occasion swellings in the extreame parts, without any suspicion of bad humours, or the blood's being at all in fault. This might be farther illustrated by those swellings in man, called the piles, where the ascent of the venal blood is interrupted by its own weight, the want of force in the vessels, and of assistance from the circumjacent parts to push on the circulation: but we hope what has already been said, will sufficiently answer our design.

The cure must be directed accordingly.

The inference to be drawn from hence is, that the cure must be differently directed when the swelling proceeds from the blood and juices, and when from the solids or vessels. In the former case, evacuations and alteratives are necessary to lessen their quantity, and rectify their quality; in the latter, externals, proper exercise. and good diet.

Conformably swelled legs arising from poverty of blood, laxity of vessels, and low diet, would be increased by evacuations, and cured by recruiting the constitution. But swelled legs from a gross constitution, where the vessels are too replete, and the blood in bad condition, will seldom be cured without bleeding, purging, rowelling, and alteratives: unless perhaps the horse is turned out to graze.

The word humours strangely abused by farriers.

To treat this subject properly, and prove in a strict sense what ought to be understood by the word *Humours*, would take up more time than the brevity we have prescribed ourselves will admit on: but these hints may be sufficient to expose the absurd cant of farriers, who are eternally misapplying a term they by no means understand, and making the word *Humours* subservient to all purposes.

We

We shall conclude this chapter however with observing, that there are more than thirty different juices, or *humours*, constantly floating in, and separated from the blood; the chief of which are the bile, perspirable matter, sweat, saliva, urine, lymph, seed, &c. which when properly mixed, and thrown off in due quantity from it, are extremely necessary to the health, and welfare of the animal; but when once perverted, irregularly carried on, or suppressed, they then become noxious, and are productive of many, and various disorders. Thus from an obstruction of the bile, the yellows, St. Anthony's fire, Erysipelatous fevers and swellings may be occasioned; the consequence of so acrimonious a fluid mixing unduly with the blood: By colds or a sudden checking of sweats, or perspiration, that matter which should freely flow off through the pores, is suddenly thrown back on the blood, which increases its quantity, and vitiates its quality; from hence the serum of the blood may become acrid and sharp: the mass of fluids in general may thus be tainted, and by thickening, form obstructions in the glands, or fine vessels: The other juices, or humours may also be perverted by various causes, as foul feeding, improper diet, &c. and produce variety of diseases, by rendering the blood too thick, thin, or acrimonious. Thus much we have thought necessary to observe in relation to *humours*; wherein may be observed, how much the term is misunderstood and abused; as in their natural state, they are not only amicable, but necessary; yet when obstructed, or perverted, they are the cause of almost all diseases.

CHAP.

CHAP. XXIII.

Of ROWELLING.

Rowel-
ling de-
fined.

THERE seems to be no remedy so much made use of, and so little understood by farriers in general, as rowels; for which reason we shall endeavour to set the whole affair in a clearer light, than hitherto it has appeared in.

We shall begin then by describing rowelling, which is an artificial vent made between the skin and flesh, in order to unload and empty the vessels in general, and thereby relieve particular parts when too much oppressed by a fullness or redundancy.

The ge-
neral no-
tion con-
cerning
rowels
absurd.

The general and absurd reasoning of farriers on the effects and use of rowelling, in some measures makes this chapter the more necessary, as it is too notorious how impertinently they talk on this subject: for in short with them, a rowel is to draw off all the bad and corrupt humours from the blood, by a sort of magick.

It is necessary to observe that the matter generally discharged by a rowel, is nothing more, than an ouzing from the extremities of the vessels divided in the making of it; in fact then, it is blood, which loses its colour, by being shed out of the vessels, the warmth of the part, and its confinement.

The use
of rowels.

If this is granted, it will evidently appear, that the good effects ensuing this operation, must be owing to a gradual depletion, or emptying of the vessels in general; by which means the surcharge or load on a particular part is taken off and removed; and impurities

or

or bad juices (generally called humours) run off with the good in proportion to their quantity in the blood.

To imagine *particular humours* are thus separately and alone discharged from the blood through these orifices, is an opinion but too generally received, though a very absurd one; and must be very pernicious in its consequences, from the bad effects it may have in practice; as must the same reasoning also in regard to purging.

Thus to lean hide-bound horses, and those Rowels, of a dry hot constitution, the discharge, by when im- depriving the constitution of so much blood proper. and fluids, is daily exhausting the strength of the animal; and may be productive of bad consequences, by defrauding the constitution of a necessary fluid.

But in disorders from fullness, attended When with acrimony or sharpness of the juices, and proper. with defluxions on the eyes, lungs or any part of consequence; the gradual discharge brought on by this means will contribute to lessen the fullness on the parts affected, and give the vessels an opportunity of recovering their tone, while evacuating and alterative medicines are doing their office.

It may be necessary however to observe that there is a wonderful communication between the vessels of the cellular membrane under the the skin, which remarkably appears by inflating those of sheep, calves, &c. by the butchers; hence probably it is that some disorders of this integument are so apparently relieved by issues, or rowels, without our having any recourse to that general depletion of the vessels we have just observed, to account for it; and hence also may be deduced their

their utility, sometimes in draining off any extravasated fluids which may lodge between the interstices of the muscles after violent strains of the shoulder; also such vicious, or sharp fluids, as are thrown on the membranes, and occasion those flying pains, and lamenesses; which we find are often removed by this local remedy.

These observations, with some few interspersed in the preceding chapters, it is hoped, will be of some use to reconcile a very vague term to some meaning.

C H A P. XXIV.

Of Strains in Various Parts.

Strains described. **I**T is necessary to observe that in all strains, the muscular or tendinous fibres are overstretched; and sometimes ruptured, or broke. To form therefore a true idea of these disorders, let us first consider every muscle and tendon as composed of springy elastic fibres, which have a proper power of their own to contract and extend themselves: or, to make their action more familiar, let us compare them to a piece of catgut, that we may the better judge with what propriety oily medicines are directed for their cure. Thus then, if by a violent extension of this catgut, you had so overstretched it, as to destroy its springiness or elasticity, and was inclined to recover its lost tone; would you for that purpose think of soaking it in oil? And is not the method of treating strains, or overstretched muscles and tendons, full as preposterous, for strains. when you bathe or soak them in oily medicines,

Oily medicines
improper
for strains.

cines, at a time that they want reſtringents to brace them up? Yet cuſtom has ſo eſtabliſhed this practice and fallacious experience ſeemingly ſo confirmed it, that it would be a difficult taſk to convince the illiterate and prejudiced, of the abſurdity; who, by attributing effects to wrong cauſes, are led into this error, and the oils uſurp the reputation that is due only to reſt and quiet: they ſeem however to be aware of the ill conſequences, by their adding the hot oils, as ſpike, turpentine and origanum; which, though they in ſome meaſure guard againſt the too ſuppleing quality of the other oils; yet the treatment is ſtill too relaxing to be of real ſervice.

And indeed in all *violent* ſtrains of either tendons or muſcles, whatever opinion we may entertain of bathing and anointing with favourite noſtrums, which often ſucceed in ſlight caſes, where perhaps bandage alone would have done; yet it is the latter, with proper reſting the relaxed fibres, till they have thoroughly recovered their tone, that are the chief things to be depended on; and frequently ſome months are neceſſary for effecting the cure.

All violent ſtrains of the ligaments, which connect the bones together, eſpecially thoſe of the thigh, require time and turning out to graſs, to perfect a recovery. External applications can avail but little here, the parts affected laying too deep, and ſo ſurrounded with muſcles, that medicine cannot penetrate to them. The ſooner in theſe caſes a horſe is turned out to graſs the better, as the gentle motion in the field will prevent the ligaments and joint oil from thickening, and of

Bandage
and reſt
proper in
ſtrains.

Time and
turning to
graſs of-
ten neceſ-
ſary.

course

course the joint itself from growing stiff; nor do I believe that firing, so commonly practised in this case, is of half the consequence (if of any at all) as rest, and turning out for a considerable time, which by the bye is always advised at the same time the horse is fired. I could not avoid saying thus much, in order to shew the great advantages of rest in all strains, and that no horse should be worked till he is thoroughly recovered.

The When a horse's shoulder is overstrained (for signs of a there is no such thing as being shoulder-slipt strained or dislocated) he does not put out that shoulder. shoulder as the other, but to prevent pain, sets the sound foot hardily to the ground, to save the other; even though he be turned short on the lame side, which motion tries him the most of any. When trotted in hand, instead of putting his leg forward in a right line, he forms a circle with the lame leg; and when he stands in the stable, that leg is advanced before the other. In order to cure this lameness, first bleed him, and let the whole shoulder be well bathed three times a day with hot verjuice or vinegar, in which may be dissolved a piece of soap; but if the lameness continues without swelling, or inflammation, after resting two or three days, let the muscles be well rubbed for a considerable time to make them penetrate, with good opodeldoch, or either of the following mixtures:

Mixtures
for strains

TAKE camphorated spirits of wine two ounces; oil of turpentine one ounce; this proportion will prevent the hair coming off.

Or,

Or,

TAKE the best vinegar half a pint; spirit of vitriol, and camphorated spirit of wine, of each two ounces.

When the shoulder is very much swelled, it A fomentation should be fomented with woollen cloths (large enough to cover the whole) wrung out of hot verjuice and spirit of wine; or a fomentation prepared with a strong decoction of wormwood, bay-leaves, and rosemary, to a quart of which may be added half a pint of spirit of wine.

A rowel in the point of the shoulder in this case often does great service; especially if the strain has been very violent, and the swelling very large; but as to boring up the shoulder with a hot iron, and afterwards in- Boring and peg-
flating it, is both a cruel and absurd treat-
ment; and the pegging up the sound foot, demned.
or setting on a patten shoe, to bring the lame shoulder on a stretch, is a most preposterous practice, and directly calculated to render a horse incurably lame; for it can only be necessary in cases the very opposite to this, where the muscles have been long contracted, and we want to stretch them out.

Where poultices can be applied they are at first undoubtedly very effectual after bath- Restraining-
ing with hot vinegar or verjuice, and are to poultices
be preferred greatly to cold charges, which very pro-
per in
by drying so soon on the part, keep it stiff
and uneasy; let them be prepared with oat-strains.
meal, rye-flower, or bran boiled up in vine-
gar, strong beer, or red wine lees, with
lard enough to prevent their growing stiff;
and when by these means the inflammation
and swelling is brought down, bathe the part
twice

Bandage
advised.

twice a day, with either of the above mixtures, opodeldoch, or camphorated spirits of wine; and rowl the part three or four inches, both above and below, with a strong linen rowler, of about two fingers width; which will contribute not a little to the recovery, by bracing up the relaxed tendon; and perhaps is more to be depended on than the applications themselves.

As opodeldoch is variously made, and those usually sold in the shops, do not seem so well calculated for horses, we shall insert the following, as better adapted to this purpose, and recommend it to be kept ready prepared for the use of the stable; it being not only very proper for the above use, but for bruises, cold swellings, benumbed parts, and for dispersing many other such sort of tumors: it may occasionally also be given internally for the gripes from wind, or taking cold; for the strangury also, and as a cordial; one ounce or more, may be taken for a dose, in a pint of ale.

TAKE Jamaica pepper four ounces, Winters bark, caraway seeds, laurel, and juniper berries bruised, of each two ounces; rosemary, marjoram and lavender flowers of each one ounce: rectified spirit of wine, three pints; let them digest in a warm place ten days, then strain off the tincture, and dissolve in it Venice soap a pound and a half; camphor three ounces; Barbadoes tar four ounces; oil of turpentine eight ounces; oil of amber two ounces; mix and make a liniment.

In

In strains of the *coffin joint* that have not been discovered in time, there will grow such a stiffness in the joint, that the horse will only touch the ground with his toe; and the joint cannot be played with the hand; the only method here is repeated blistering, and then firing superficially.

Strains of the *back sinews* are very common, and are easily discovered by the swelling, the back which extends sometimes from the back-side sinews of the knee down to the heel, but for the most part the horse sets that leg before the other. The tendon should be well bathed and cured three or four times a day with hot vinegar; and if much swelled, apply the poultices above recommended; and when the swelling is down, bathe with the mixtures above, or with camphorated spirit of wine and oil of amber, in which is dissolved as much camphor as the spirits will take up, and rowl up the tendon with a proper bandage, or laced stocking; which last properly fitted to the limb, might be wore to great advantage, not only in these sort of injuries, but in most others, where there is a disposition to the grease, or other swellings of the limbs, from weak and relaxed fibres. Curriers shavings wetted with vinegar have been found useful for this purpose; as has also tar and spirit of wine: but where the tendon has suffered by repeated injuries of this kind, the case will demand blistering, firing and proper rest.

Strains of the *knees* and *pasterns* arise frequently from kicks, or blows; if they are much swelled, apply first the poultices; and when the swelling is abated, bathe with the terns above, or the following:

H

TAKE

Mixtures
for strains

TAKE vinegar one pint; camphorated spirits of wine, four ounces; white vitriol, dissolved in a little water two drams.

Or,

TAKE the whites of three or four eggs, beat them into a froth with a spoon; to which add an ounce of roach allum finely powdered; spirit of turpentine and wine of each half an ounce; mix them well together.

The following is also much recommended by the French writers, and has been found very successful in some old strains, when other remedies have failed.

TAKE one pound of tar, and two of rectified spirit of wine, stir them together over a fire till they incorporate (but take care the flame does not catch the spirits,) then add two ounces of bole finely powdered; and a sufficient quantity of oatmeal to bring it to the consistence of a poultice; to which add lard enough to prevent its growing dry; apply it spread on cloth twice a day.

As great weakness remains in the pasterns after violent strains, the best method is to turn the horse out to grass till he is perfectly recovered; when this cannot be complied with the general way is to blister and fire.

The signs
of lame-
ness in
the *stifle*.

When a horse is lame in the *stifle*, he generally treads on his toe, and cannot set the heel to the ground. Treat him at first with the

the vinegar and cooling reſtringents; but if a large ſwelling with puffyness enſues, foment it well with the diſcutient fomentation till it diſperſes; and then bathe the part with any of the above medicines.

A lameness in the whirle bone and hip, is discovered by the horse's dragging his leg after him, and dropping backward on his heel when he trots. If the muscles of the hip are only injured this kind of lameness is cured easily; but when the ligaments of the joint are affected, the cure is often very difficult, tedious, and uncertain. In either case at first bathe the parts well with the cooling medicines four or five times a day; in the muscular strain this method alone may succeed, but in the ligamentous it is rest and time only can restore the injured parts to their proper tone.

Strains in the *hock* are to be treated by soaking the parts with coolers and repellers; but when the ligaments are hurt, and they are attended with great weakness and pain, use the fomentation. If a hardness should remain on the outside, it may be removed by repeated blistering; if within, it may be out of the power of an external application to remove; however the joint should be fired gently with small razes or lines pretty close together, and then covered with a mercurial plaister, To the diſcutient fomentation above-mentioned may be added crude sal armoniac, with a handful of wood ashes boiled in it.

The blistering ointment for the above purposes may be found in the chapter of *Bone-Spavin*; but the sublimate should be omitted.

The *firing* used for the strengthening relaxed sinews or tendons, should act only on the ed.

the skin, which by contracting and hardening it all round the sinews, compresses them more firmly like a bandage. The bow-men of old submitted to this operation, in order to give strength to the muscles and tendons of their arms. A proper degree of skill is very requisite to perform it effectually on a horse; for a due medium should be observed, and the instrument neither so slightly applied as to scarify the skin only superficially, nor so deep as to wound or cauterize the sinew or its sheath: in the former case, the wounds not penetrating the skin at all, the scars would not be hard enough to act with a sufficient pressure on the tendon; and in the latter, the fire being given too deep, might slough off the tendon itself, the consequence of which would be a loss of substance, and of course a lameness would ensue from a contracted sinew.

CHAP. XXV.

Of TUMORS and IMPOSTHUMES.

TUMORS or swellings arise either from external injuries or internal causes.

Swellings
from ex-
ternal
causes,
how
treated.

Swellings caused by external accidents, as blows and bruises, should at first be treated with restringents; thus, let the part be bathed frequently with hot vinegar or verjuice, and, where it will admit of bandage, let a flannel wetted with the same be rowled on: If by this method the swelling does not subside, apply, especially on the legs, a poultice with red wine lees, strong beer grounds and oatmeal, or with vinegar, oil and oatmeal; either

ther of these may be continued twice a day, after bathing, till the swelling abates; when in order to disperse it intirely, the vinegar should be changed for camphorated spirit of wine, to four ounces of which may be added one of spirit of sal ammoniac; or it may be bathed with a mixture of two ounces of crude sal ammoniac boiled in a quart of chamberlye, twice a day, and rags dipped in the same may be rowled on.

Fomentations made by boiling wormwood, bay-leaves and rosemary, and adding a proper quantity of spirits, are often of great service to thin the juices, and fit them for transpiration; especially if the injury has affected the joints.

But in bruises, where the extravasated blood will not by these means be dispersed, the shortest way is to open the skin, and let out the grumes.

Critical tumors, or swellings which terminate fevers, should by no means be dispersed; except when they fall on the pastern or coffin joint, so as to endanger them; in this case the discutient fomentation should be applied three or four times a day, and a cloth or flannel frequently wrung out of the same should be bound on, in order to keep the joint continually breathing.

But if the swelling fixes under the jaws, behind the ears, on the poll, withers, or in the groins and sheath, &c. it should be encouraged and forwarded by ripening poultices, wherever they can be applied; oatmeal boiled soft in milk, to which a proper quantity of oil and lard is added may answer this purpose; or the poultice recommended in the chapter of *Strangles*: these must be applied twice a day,

day, till the matter is perceived to fluctuate under the fingers, when it ought to be let out; for which purpose let the tumor be opened with a knife or strong lancet, the whole length of the swelling, if it can be done safely, for nothing contributes so much to a kind healing, as the matter's having a free discharge, and the openings being big enough to dress to the bottom.

The fore
how dressed.

Pledgits of tow spread with black or yellow basilicon (or the wound ointment) and dipped in the same, melted down with a filth part of oil of turpentine, should be applied to the bottom of the fore, and filled up lightly with the same, without erasing; it may be thus dressed once or twice a day, if the discharge is great, till a proper digestion is procured, when it should be changed for pledgits spread with the red precipitate ointment, applied in the same manner.

Fomentations and poultices recommended to help digestion.

Should the fore not digest kindly but run a thin water and look pale, foment as often as you dress, with the above fomentation; and apply over your dressing the strong beer poultice, and continue this method till the matter grows thick, and the fore florid.

The following ointments will generally answer your expectations in all common cases, and may be prepared without, as well as with, the verdigrease.

The wound ointment.

TAKE Venice turpentine and bees wax, of each a pound; oil of olives one pound and half; yellow rosin twelve ounces: when melted together, two or three ounces of verdigrease finely powdered may be stirred in, and kept so till cold, to prevent its subsiding.

TAKE

TAKE of yellow basilicon, or the above The red ointment, without verdigrease, four ounce-precipitates; red precipitate finely powdered half ounce ointment. an ounce: mix them together cold, with a knife or spatula.

This last applied early, will prevent a fungus, or proud flesh, from shooting out; for if you dress too long with the above digestive, the fungus will rise fast, and give some trouble to suppress it; when it will be necessary to wash the sore as often as you dress, with a solution of blue vitriol in water, or to sprinkle it with burnt allum and precipitate. If these should not be powerful enough, touch with a caustic, or wash the sublimate water, made by dissolving half an ounce of corrosive sublimate in a pint of lime water. The sublimate wash.

But this trouble may in a great measure be prevented, if the sore is on a part where bandage can be applied with compresses of linen cloth: for even when these excrescences regerminate, as it were, under the knife, and spring up in spite of the caustics above mentioned, they are to be subdued by moderate compression made on the sprouting fibres, by these means. Observa-

Authors on farriery have in general given very proper receipts to answer every intention of this kind by medicines; but as they have not, I think, laid down sufficient rules for their application in those cases where they are most wanted, I hope the following general directions will not be unacceptable; as the difficulty in healing some kind of sores arises frequently from the unskilful manner of dressing them.

How
fores
should be
dressed.

It may be necessary then to observe here once for all, that the cures of most fores are effected by the simplest methods, and that it is often of much more consequence to know *how* to dress a fore, than *what* to dress it with; and in this consists indeed the chief art of this branch of surgery; for the most eminent in that profession have long since discovered, that variety of ointments and salves are unnecessary in the cure of most wounds and fores, and they have accordingly discarded the greatest part, formerly in repute for that purpose; repeated observations having taught them, that after the digestion, nature is generally disposed to heal up the wound fast enough herself, and that the Surgeon's chief care is to prevent a luxuriancy, commonly called *proud flesh*; which all ointments wherein lard or oil enters, are but too prone to encourage, as they keep the fibres too lax and supple; and which dry lint alone, early applied, as easily prevents, by its absorbing quality, and light compression on the sprouting fibres.

Some particular directions for that purpose.

Thus if a hollow wound or fore is crammed with tents, or the dressings are applied too hard, the tender shoots of flesh from the bottom are prevented pushing up; and the sides of the fore in time from this distension may grow horney, and turn fistulous; nor has the matter by this method a free discharge.

On the other hand, if fores of any depth are dressed superficially, the external parts being more disposed to heal and come together than the internal, they will fall into contact, or heal too soon; and the fore not filling up properly from the bottom, will break out a-fresh.

Hence

Hence we may justly conceive how little stress is to be laid on famous ointments, or family salves, unskilfully applied; for unless this due medium is observed, or obtained in the dressing, no hollow sore can heal up properly.

I thought it necessary to be a little explicit on this head, as gentlemen so frequently complain of being disappointed in their cures, notwithstanding the excellency of their ointment, or balsam; and to convince them that happens less confidence should be put in these favourite medicines than is generally imagined; for where the habit is sound, and the blood and juices in good condition, there are few simple dressings that will not succeed; and when otherwise, the most pompous will not avail, till these are rectified by proper internal medicines.

As soon then as a good digestion is procured (which is known by the thickness and whiteness of the matter discharged, and the florid red colour at the bottom of the sore) let the dressings be changed for the precipitate medicine; or the sore may be filled up with dry lint alone, or dipped in lime-water with a little honey and tincture of myrrh or brandy: about a fifth part of the latter to one of the former; a pledgit of lint dipped in this mixture should also be applied to the bottom of the sore, which should be filled up with others to the surface or edges, but not crammed in too hard, as before observed, nor yet applied too loosely.

By this method, the sore would incarnate, and heal up properly, and soft spongy flesh would be prevented, or suppressed in time; whereas when ointments or salves are too long continued, Digestive ointments should not be continued too long.

tinued, a fungus or proud flesh, is thereby so encouraged in its growth, that it requires some time to destroy and eat it down again: a proper compress of cloth, and a linen roller is absolutely necessary both for this purpose, and to secure on the dressings, wherever they can conveniently be applied.

An over-reach described.

To illustrate what has been said, I shall take this opportunity of shewing how a wound from an over-reach should be treated, as I find it sometimes proves very difficult of cure. This wound is caused by the point of the hind shoe's cutting into the horse's fore heel; and when it is only superficial, or slight, is in general easily cured by washing it clean, and applying the wound ointment: but it should be observed from the nature and manner of the injury, where the blow has been smart, that it differs widely from a common cut; the part here being both torn and bruised; and consequently it requires to be properly digested, in order to lay a good foundation for healing.

How cured.

For this purpose, after washing out any dirt or gravel with soap suds, &c. let the wound be digested, by dressing it with dossils of lint dipped in an ounce of Venice turpentine, divided with the yolk of an egg, to which half an ounce of tincture of myrrh may be added; over this dressing I should advise the turnip poultice, or that with strong beer grounds and oatmeal, to be applied three or four times, or oftner, till the digestion is procured, which is known by the signs above mentioned, and then both these dressings may be changed for the precipitate medicines, or the lime-water mixture; observing always to apply the dossils carefully to the bottom, to fill

fill up the sore with the same to the surface, and to bind all on with a compress and roller: and if any cavities appear that cannot conveniently be dressed to the bottom, they should always be laid open, or no proper foundation for healing can be obtained. The hoof also should be kept supple, or pared away, when the growth of it interrupts this end, as sometimes is the case.

CHAP. XXVI.

Of WOUNDS in General.

IN all fresh wounds made by cutting instru- The lips
ments, there is nothing more required of all fresh
than bringing the lips of the wound into con- wounds
tact by suture or bandage, provided the part should be
will allow of it; for on wounds of the hips, or brought
other prominent parts, and across some of the into con-
large muscles, the stitches are apt to burst on tact.
the horse's lying down and rising! up in the
stall; in such cases the lips should not be
brought close together: one stitch is sufficient
for a wound two inches long; but in large
wounds, they should be at an inch or more
distance; and if the wound is deep in the
muscles, care should be taken to pass the
needles proportionably deep, otherwise the
wound will not unite properly from the bot-
tom.

Should the wound bleed much from an ar- How
tery divided, the first step should be to secure bleeding
that by passing a crooked needle underneath, in wounds
and tying it up with a waxed thread: if the should be
artery cannot be got at this way, apply a but- stopped.
ton of lint or tow to the mouth of the bleed-
ing

ing vessel, dipped in a strong solution of blue vitriol, styptic water, oil of vitriol, or hot oil of turpentine, powdered vitriol, or colcothar, &c. and remember always to apply it close to the mouth of the bleeding vessels, and take care that it is kept there by proper compress and bandage, till an eschar is formed; otherwise it will elude your expectations, and frequently alarm you with fresh bleedings.

I purposely avoid setting down any famous receipts for fresh wounds, whether ointments or Fryar's balsams, being well assured, that in a healthy sound constitution, nature furnishes the best balsam, and performs herself the cure, which is so often attributed to the medicine; when it is otherwise, and the blood is deprived of its balsamic state, as will appear from the aspect of the wound, and its manner of healing, it must be rectified by proper internal medicines, before a good foundation for healing can be laid by any external applications whatever.

Fresh
wounds
how dressed.

The lips of the wound then being brought together by the needle or bandage, it needs only be covered with rags dipped in brandy, or a pledgit of tow spread with the wound ointment, in p. 150. the directions in the preceding chapters being observed, and the wounded part kept as much as possible from motion.

Observation.

Remember to dress all wounds of the joints, tendons, and membranous parts, with terebinthinate medicines: to which may be added honey and tincture of myrrh; and avoid all greasy applications whatever; fomentations are also generally here of great use.

Punctured
wounds,

Punctured wounds from thorns, or any other accidents, should be treated in the same manner

manner; applying the beer, or bread and how treat-
milk poultice over the dressing, till some signs ed.
of digestion appear; and fomenting the part
well every day. This method is also very
successfully used to those swellings which of-
ten arise on the neck from bleeding, the sores
being sprinkled with precipitate and burnt al-
lum powdered to fetch out the core or fungus
which choaks up the orifice. The usual meth-
od is to introduce a piece of vitriol or sub-
limate, which often brings on a plentiful dis-
charge, fetches out the core, and makes a
cure; but it is often with the loss of the vein,
and it sometimes leaves a large swelling and
impossthumatation.

In gun-shot wounds, when the ball has not Gun-shot
penetrated too deep, it should be extracted, wounds,
if it can be fetched away without disturbance, how treat-
together with any extraneous bodies that ed.
might pass in with it; the wound should be
dressed with the old digestive of Venice or
common turpentine, divided with the yolks
of eggs, to which may be added some honey
and tincture of myrrh. The entrance of
these wounds frequently requires to be en-
larged, and a depending orifice should always
be procured if possible; and if the wound
should not digest kindly, apply the beer poul-
tice, and foment with the discutient fomen-
tation, p. 149.

In scalds, or burns from gunpowder or Scalds and
any other cause, when the skin remains in- burns,
tire, bathe the part well, and keep it soaked how treat-
with rags dipped in spirit of wine camphorat- ed.
ed: salt bound thick on the part has been
found very effectual for this purpose: and in-
deed all saline and spirituous applications ex-
cel others while the skin is yet unbroke; but
when

when the skin is separated, anoint the part, and keep it constantly supple with linseed or fallad oil, and a plaister spread with bees-wax and oil; if the skin is so scorched, that sloughs must be digested out, dress with the wound ointment and oil of turpentine, and finish the cure with any drying ointment. Should the horse be feverish from the pain, bleed him, give cooling glysters, and treat him as we have directed in simple fevers.

Observation.

The fire supposed to be left in the part after injuries of this kind, is nothing more than the inflammation, which is the natural effect of such causes; so that the whimsical notions and conceits concerning fire remaining in the burnt part is extremely absurd.

CHAP. XXVII.

Of ULCERS in General.

WE shall not here enter into a description of each particular species of ulcers, but only lay down some directions for their general treatment, by which means we shall avoid the usual prolixity of authors on this subject, and yet give so general an idea of the nature of ulcers, as we hope will be sufficiently instructive both of the application, and of the proper remedy to each.

The cure of some ulcers in vain attempted without internals.

It may be necessary to observe, that we may often in vain pursue the best methods of cure by external applications, unless we have recourse to proper internal remedies; for as all ulcers difficult to heal, proceed from a particular indisposition of the blood and juices, before the former can be brought into any order,

order, the latter must be corrected by alteratives, and sweetening medicines.

The first intention in the cure of ulcers is The general method of curing ulcers. bringing them to digest, or discharge a thick matter; which will in general be effected by the green ointment, or that with precipitate; but should the sore not digest kindly by these means, but discharge a gleety thin matter, and look pale, you must then have recourse to warmer dressings, such as balsam or oil of turpentine, melted down with your common digestive, and the strong beer poultice over them; it is proper also in these kind of sores where the circulation is languid and the natural heat abated, to warm the part, and quicken the motion of the blood, by fomenting it well at the time of dressing; which method will thicken the matter, and rouse the native heat of the part, and then the former dressings may be re-applied.

If the lips of the ulcer grow hard or callous, they must be pared down with a knife, and afterwards rubbed with the caustic.

Where soft fungous flesh begins to rise, it should carefully be suppressed in time, otherwise the cure will go on but slowly; if it has already sprouted above the surface, pare it down with a knife, and rub the remainder with a bit of caustic; and to prevent its rising again, sprinkle the sore with equal parts of burnt allum and red precipitate, or wash with the sublimate water, and dress with dry lint even to the surface, and then rowl over a compress of linen as tight as can be borne; for a proper degree of pressure, with mild applications, will always oblige these spongy excrescences to subside, but without bandage the strongest will not so well succeed.

All

Hollow
ulcers.

All sinusses or cavities should be laid open as soon as discovered, after bandages have been ineffectually tried; but where the cavity penetrates deep into the muscles, and a counter opening is impracticable or hazardous; where by a continuance, the integuments of the muscles are constantly dripping and melting down; in these cases injections may be used, and will frequently be attended with success. A decoction of colcothar boiled in forge-water, or a solution of lapis medicamentosus in lime-water, with a fifth part of honey and tincture of myrrh, may be first tried, injecting three or four ounces twice a day: if this should not succeed, the following, which is of a sharp and caustic nature, is recommended on Mr. *Gibson's* experience.

A drying
injection.

TAKE of Roman vitriol half an ounce, dissolve in a pint of water, then decant and pour off gently into a large quart bottle; add half a pint of camphorated spirit of wine, the same quantity of the best vinegar, and two ounces of *Ægyptiacum*.

This mixture is also very successfully applied to ulcerated greasy heels, which it will both cleanse and dry up.

Fistulous
ulcers.

These sinusses or cavities frequently degenerate into *fistulae*, that is, grow pipey, having the inside thickened, and lined as it were with a horny callous substance. In order to their cure, they must be laid open, and the hard substance all cut away; where this is impracticable, scarify them well and trust to the precipitate medicine made strong, rubbing now and then with caustic, butter of antimony, or equal parts of quicksilver and aqua fortis.

When

When a rotten or foul bone is an attendant Ulcers on an ulcer, the flesh is generally loose and with foul flabby, the discharge oily, thin and stink-bones. ing, and the bone discovered to be carious, by its feeling rough to the probe passed thro' the flesh for that purpose. In order to a cure, the bone must be laid bare, that the rotten part of it may be removed; for which purpose, destroy the loose flesh, and dress with dry lint; or the dossils may be pressed out of tincture of myrrh or euphorbium: the throwing off the scale is generally a work of nature, which is effected in more or less time, and in proportion to the depth the bone is affected; though burning the foul bone is thought by some to hasten its separation.

Where the cure does not properly succeed, What in-mercurial physick should be given, and re-ternals peated at proper intervals: and to correct and proper to mend the blood and juices, the antimonial correct and alterative powders, with a decoction of the blood. guaiacum and lime waters, are proper for that purpose. *Vide* chap. on Alteratives.

This general method of treating ulcers or sores, if properly attended to, will be found applicable to particular cases; so that to avoid repetitions, we refer the reader to this chapter.

C H A P. XXVIII.

Of a BONE-SPAVIN.

Without entering at all into the cause of A spavin this disorder, which is a bony excrescences, or hard swelling growing on the inside of the hock of a horse's leg, we shall content ourselves

ourselves with describing the different kind^s thereof, by their symptoms; and then enter on their cure.

A spavin that begins on the lower part of the hock, is not so dangerous as that which puts out higher, between the two round processes of the leg bone; and a spavin near the edge is not so bad as that which is more inward towards the middle, as it does not so much affect the bending of the hock.

The different kinds.

A spavin that comes by a kick or blow, is at first no true spavin, but a bruise on the bone, or membrane which covers it; therefore not of that consequence, as when it proceeds from a natural cause: and those that put out on colts and young horses, are not so bad as those that happen to horses in their full strength and maturity; but in very old horses, they are generally incurable.

Some proper cautions.

The usual method of treating this disorder is by blisters and firing, without any regard to the situation, or cause whence it proceeds. Thus if a fullness on the fore part of the hock comes upon hard riding, or any other violence, which threatens a spavin; in that case such coolers and repellers are proper, as are recommended in strains and bruises. Those happening to colts and young horses are generally superficial, and require only the milder applications: for it is better to wear them down by degrees, than to remove them at once by severe means.

Various are the prescriptions for the blistering ointment; but the following, on proper experience, stands well recommended by Mr. Gibson.

The blistering ointment.

TAKE nerve and marshmallow ointment, of each two ounces; quicksilver one ounce,

ounce, thoroughly broke with an ounce of Venice turpentine; Spanish flies powdered, a dram and a half; sublimate one dram; oil of origanum two drams.

The hair is to be cut as close as possible, How to and then the ointment applied pretty thick be used. over the part; this should be done in the morning, and the horse kept tied up all day without any litter till night; when he may be untied, in order to lie down; and a pitch plaister, or any sticking plaister may be laid over it, and bound on with a broad tape or bandage, to keep all close.

After the blister has done running, and the scabs begin to dry and peel off, it may be applied a second time, in the same manner as before; this second application generally taking greater effect than the first, and in colts and young horses makes a perfect cure.

When the spavin has been of long stand- Observa- ing, it will require to be renewed, perhapstion. five or six times; but after the second application, a greater distance of time must be allowed, otherwise it might leave a scar, or cause a baldness; to prevent which, once a fortnight or three weeks is often enough; and it may in this manner be continued six or seven times, without the least blemish, and will generally be attended with success.

But the spavins that put out on older or full aged horses, are apt to be more obstinate, as being seated more inward; and when they run among the sinuosities of the joint, they are for the most part incurable, as they then lie out of the reach of applications, and are arrived to a degree of impenetrable hardness.

The

Some cau-
tions in
regard to
firing and
caustics.

The usual method in these cases is to fire, directly, or to use the strongest kind of caustic blisters; and sometimes to fire and lay the blister immediately over the part; but this way seldom succeeds farther than putting a stop to the growth of the spavin, and is apt to leave both a blemish and stiffness behind; besides the great risk run (by the applications of these fiery and caustic medicines to the nervous and tendinous parts about the joints) of exciting violent pain and anguish, and destroying the limb.

The
blistering
ointment
recom-
mended.

The best and safest way therefore is to make trial of the blistering ointment above, and to continue it according to the directions there laid down, for some months, if found necessary, the horses in the intervals working moderately: the hardness will thus be dissolved by degrees, and wear away insensibly.

Directions
for firing.

Where the spavin lies so deep, and runs so far into the hollow of the joint, that no application can reach it, neither firing nor medicines can avail, for the reasons above mentioned: though bold ignorant fellows have sometimes succeeded in cases of this sort (by men of judgment deemed incurable) by the application of caustic ointments with sublimate, which act very forcibly, enter deep, and make a large discharge, and by that means destroy a great part of the substance, and dissolve away the remainder.

Directions
for firing.

Though whoever is at all acquainted with the nature of these medicines, must know how dangerous in general their operation is on these occasions, and that a proper prepared cautery made like a steam, under the direction of a skilful hand, may be applied with less danger of injuring either tendons or ligaments. Af-
ter

ter the substance of the swelling has been properly penetrated by the instrument, it must be kept running by the precipitate medicine, or mild blistering ointment. Where the spavin lies not deep in the joint, and the blistering method will not succeed, the swelling may be safely fired with a thin iron forced pretty deep into the substance, and then should be dressed as is above directed.

C H A P. XXIX.

Of a CURB and RING-BONE.

AS a spavin rises among the bones on the A curb fore part of the hock, so a curb takes its described origin from the junctures of the same bones, and rises on the hind part, forming a pretty large tumour over the back part of the hind leg, attended with stiffness, and sometimes with pain and lameness.

A curb proceeds from the same causes that How curb produce spavins; viz. hard-riding, strains, ed. blows, or kicks. The cure at first is generally easy enough effected by blistering, repeated two or three times, or oftner. If it does not submit to this treatment, but grows excessively hard, the quickest and surest way is to fire with a thin iron, making a line down the middle from top to bottom, and drawing several lines in a penniform manner pretty deep; and then to apply a mild blistering plaister or ointment over it:—This method will intirely remove it.

There is another swelling taken notice of, A jardon on the outside of the hock, which is called a described. *Jardon*. This commonly proceeds from blows and

and kicks of other horses; but frequently happens to managed horses, by setting them on their haunches: it is seldom attended with much lameness, unless it has been neglected, or some little process of the bone be broke. It should first be treated with the coolers and repellers in page 172. and 173. but if any swelling continues hard, and insensible, the best way is to blister or fire; but mild blisters alone generally succeed.

A ring-
bone de-
scribed.

The ring-bone is a hard swelling on the lower part of the pastern, which generally reaches half way round the forepart thereof, and from its resemblance to a ring, has its denomination. It often arises from strains, &c. and when behind, from putting young horses too early upon their haunches; for in that attitude a horse throws his whole weight as much, if not more, upon his pasterns, than on his hocks.

Their dif-
ference.

When it appears distinctly round the pastern, and does not run downwards toward the coronet, so as to affect the coffin joint, it is easily cured; but if it takes its origin from some strain or defect in the joint originally, or if a callosity is found under the round ligament that covers that joint, the cure is generally dubious, and sometimes impracticable; as it is apt to turn to a quittor, and in the end to form an ulcer upon the hoof.

The ring-bones that appear on colts and young horses, will often insensibly wear off of themselves, without the help of any application; but when the substance remains, there needs no other remedy besides blistering, unless when by long continuance it is grown to an obstinate hardness, and then it may require both blistering and firing.

To

To fire a ring-bone successfully, let the operation be performed with a thinner instrument than the common one, and let the lines or razes be made not above a quarter of an inch distant, crossing them obliquely somewhat like a chain: apply a mild blister over all; and when quite dried up, the rupture plaister; and then turn the horse to grass for some time.

C H A P. XXX.

Of SPLENTS.

THESE are hard excrescences that grow Splents on the shank-bone, and are of various described. shapes and sizes. Some horses are more subject to splents than others; but young horses are most liable to these infirmities, which often wear off, and disappear of themselves. Few horses put out splents after they are seven or eight years old, unless they meet with blows or accidents.

A splent that arises in the middle of the Best let shank bone is no ways dangerous; but those alone, if that arise on the back part of this bone, when they oc- they grow large and press against the back cation no sinew, always cause lameness or stiffness, by lameness. rubbing against it: the others, except they are situated near the joints, seldom occasion lameness.

As to the cure of splents, the best way is The cure. not to meddle with them, unless they are so large as to disfigure a horse, or are so situated as to endanger his going lame.

Splents in their infancy, and on their first appearance, should be well bathed with vine-
gar,

gar, or old verjuice; which by strengthening the fibres, often put a stop to their growth: for the membrane covering the bone, and not the bone itself, is here thickened; and in some constitutions purging and afterwards diuretic drinks, will be a great means to remove the humidity and moisture about the limbs, which is what often gives rise to such excreffences.

Various are the remedies prescribed for this disorder; the usual way is to rub the splent with a round stick, or the handle of a hammer, till it is almost raw, and then touch it with oil of origanum. Others lay on a pitch plaister, with a little sublimate or arsenic, to destroy the substance: some use oil of vitriol; some tincture of cantharides: all which methods have at times succeeded; only they are apt to leave a scar with the loss of hair. Those applications that are of a more caustic nature often do more hurt than good, especially when the splent is grown very hard, as they produce a rottenness, which keeps running several months before the ulcer can be healed, and then leaves an ugly scar.

Mild blisters often repeated, as recommended in the chapter of *Bone-Spavin*, should first be tried as the most eligible method, be preferred and will generally succeed even beyond expectation: but if they fail, and the splent be near the knee or joints, you must fire and blister in the same manner as for the bone-spavin.

Splents on the back part of the shank-bone are difficult to cure, by reason of the back sinews covering them; the best way is to bore the splent in several places with an iron not very hot; and then to fire in the common way,

way, not making the lines too deep, but very close together.

C H A P. XXXI.

Of the POLL-EVIL.

THE poll-evil is an abscess near the poll of a horse, formed in the sinusses between the noll-bone, and the uppermost vertebrae of the neck. The poll-evil described.

If it proceeds from blows, bruises, or any external violence, at first bathe the swelling often with hot vinegar, and if the hair be fretted off with an ouzing through the skin, make use of two parts of vinegar, and one of spirit of wine; but if there be an itching with heat and inflammation, the safest way is to bleed and apply poultices with bread, milk, and elder flowers: this method, with the assistance of physick, will frequently disperse the swelling, and prevent this evil. How cured.

But when the tumor is critical, and has all the signs of matter, the best method then is to forward it by applying the ripening poultices already taken notice of, till it comes to maturity, and bursts of itself; or if opened with a knife great care should be taken to avoid the tendinous ligament that runs along the neck under the mane: when matter is on both sides, the opening must be made on each side, and the ligament remain undivided. How treated, when critical.

If the matter flows in great quantities, resembles melted glue, and is of an oily consistence, it will require a second incision, especially if any cavities are discovered by the finger or probe; these should be opened by Various methods of cure.

the knife, the orifices made depending, and the wound dressed with the common digestive of turpentine, honey, and tincture of myrrh, and after digestion with the precipitate ointment; or wash the sore with the following made hot, and fill up the cavity with tow soaked in it.

A drying
wash.

TAKE vinegar or spirit of wine half a pint, white vitriol dissolved in spring water half an ounce, tincture of myrrh four ounces.

This may be made sharper by adding more vitriol; but if the flesh is very luxuriant, it should first be pared down with a knife before the application; with this wash alone Mr. *Gibson* has cured this disorder without any other formality of dressing, washing with it twice a day, and laying over the part a quantity of tow soaked in vinegar, and the white of eggs beat together. This last application will serve instead of a bandage, as it will adhere close to the poll, and come off easy when there is occasion to dress. Some wash with the phagædenic water, and then fill up the abscess with loose dossils of tow soaked in *Ægyptiacum* and oil of turpentine made hot, and continue this method till the cure is effected.

But the most compendious method of cure is found by observation to be by scalding, as the farriers term it, and is thus prosecuted when the sore is foul, of a bad disposition, and attended with a profusion of matter.

The
scalding
mixture.

TAKE corrosive sublimate, verdigrease in fine powder, and Roman vitriol, of each two drams; green copperas half an ounce; honey or *Ægyptiacum* two ounces, oil of turpentine and train oil,
of

of each eight ounces; rectified spirit of wine four ounces: mix together in a bottle.

Some make their scalding mixture milder, using red precipitate instead of the sublimate, and white vitriol instead of the blue; the following has been successfully used for this purpose, *viz.* half an ounce of verdigrease, half a pint of train oil, four ounces of oil of turpentine, and two of oil of vitriol.

The manner of scalding is first to clean the abscess well with a piece of sponge dipped in vinegar; then put a sufficient quantity of the mixture into a ladle with a spout, and when it is made scalding hot, pour it into the abscess, and close the lips together with one or more stitches. This is to remain in several days, and if good matter appears, and not in an over great quantity, it will do well without any other dressing, but bathing with spirit of wine; if the matter flows in great abundance, and of a thin consistence, it must be scalded again, and repeated till the matter lessens and thickens.

These liquid corrosive dressings agree well with horses, whose fibres are stiff and rigid, and whose juices are oily and viscid; in this case they contract the vessels of the tendons on the hind part of the head and upper part of the neck, which are continually spewing out a matter or ichor that can hardly be digested, or the profusion abated without such applications as these.

C H A P. XXXII.

*Of a Fistula and Bruises on the Withers,
Warbles on the Back, and Sit-Fasts.*

Bruises of the withers, how caused. **B**RUISES on the withers frequently imposthume, and for want of care turn fistulous; they arise often from pinches of the saddle, and should be treated with repellers; for this purpose bathe the tumor well with hot

The cure. vinegar three or four times a day, if that does not succeed alone, an ounce of oil of vitriol may be put to a quart of vinegar, or half an ounce of white vitriol dissolved in a little water, and added to the same quantity. These are generally very effectual repellers for this purpose in horses, and will frequently prevent imposthumation: When the swelling is attended with heat, smarting, and little hot watery pimples, the following mixture will then be more proper to bathe with.

A repelling wash.

TAKE two ounces of crude sal ammoniac, boiled in a quart of lime-water, where that cannot be had, a handful of pearl or wood ashes may be boiled in common water; pour off the decoction when settled, and mix with it half a pint of spirit of wine: anoint the part afterwards with linseed oil, or elder ointment, to soften and smooth the skin.

When critical how treated.

But when these swellings are critical, the consequence of a fever settled on this part, you must avoid the repelling method, and assist in bringing the swelling to matter by means of suppurating poultices: experienced farriers advise never to open these tumors till they break of themselves; for if they are opened

opened before they are ripe, the whole sore will be spongy, and discharge a bloody ichor, which soon degenerates into a sordid ulcer. But take care to enlarge the openings and pare away the lips, that your dressings may be applied easily; and avoid the ligament which runs along the neck to the withers; if a gathering forms on the opposite side, open it in the same manner, but take care they incline downwards, for the sake of depending orifices, and letting the matter flow off easily. For the method of dressing we must refer to the preceding chapter; and if the bones should be found foul, they must be dressed with tincture of myrrh till they scale of: if the fungus is very troublesome, and the discharge oily, yellow and viscid, pledgits soaked in the following made hot have been found very effectual, bathing the swelling round with spirit of wine and vinegar.

TAKE half an ounce of blue vitriol, dissolved in a pint of water; oil of turpentine, and rectified spirit of wine, of each four ounces: white wine vinegar six ounces; oil of vitriol and *Ægyptiacum*, of each two ounces. A drying wash.

When the cavities are truly fistulous, the callosities must be cut out, where it can be done, with a knife; and the remainder destroyed by corrosives, *viz.* precipitate, burnt allum, and white vitriol, as we have already observed in the chapter on *Ulcers*.

Warbles are small hard tumors under the saddle part of a horse's back, occasioned by the heat of the saddle in travelling, or its uneasy situation. A hot greasy dish-clout at first frequently applied, will sometimes remove them. Camphorated spirits of wine are also

very effectual for this purpose to disperse them, to which a little spirit of sal ammoniac may be added. The repellers above mentioned are successfully applied in these cases, and if you are obliged to work the horse, take care your saddle is nicely chambered.

A fit-fast,
what.

A fit-fast proceeds generally from a warble, and is the horse's hide turned horny, which if it cannot be dissolved and softened by rubbing with the mercurial ointment, must be cut out, and treated then as a fresh wound.

C H A P. XXXIII.

Of Wind-Galls, Blood *and* Bog-Spavins.

Wind-
galls de-
scribed.

A *Wind-gall* is a flatulent swelling, which yields to the pressure of the finger, and recovers its shape on the removal thereof: the tumor is visible to the eye, and often seated on both sides of the back sinew, above the fetlocks, on the fore legs; but most frequently on the hind legs; though they are met with in various parts of the body, wherever membranes can be so separated, that a quantity of air and serosities may be included within their duplicatures.

How
caused.

When they appear near the joints and tendons, they are generally caused by strains, or bruises on the sinews, or the sheath that covers them; which by being overstretched, have some of their fibres ruptured; whence probably may ouze out that fluid which is commonly found with the included air: though where these swellings shew themselves in the interstices of large muscles, which appear blown up like bladders, air alone is the chief

chief fluid; and these may safely be opened, and treated as a common wound.

On the first appearance of wind-galls, their cure should be attempted by restrungents and should be bandaged; for which purpose let the swelling be bathed twice a day with vinegar, or verjuice alone, or let the part be fomented with a decoction of oak bark, pomegranate and allum boiled in verjuice binding over it, with a rowler, a woollen cloth soaked in the same. Some for this purpose use red wine lees, others curriers shavings wetted with the same, or vinegar, bracing the part up with a firm bandage.

If this method after a proper trial, should not be found to succeed, authors have advised the swelling to be pierced with an awl, or opened with a knife; but mild blistering has in general the preference given to these methods; the including fluids being thereby drawn off, the impacted air dispersed, and the tumor gradually diminished. A little of the blistering ointment should be laid on every other day for a week, which brings on a plentiful discharge, but generally in a few days is dried up, when the horse may be put to his usual work, and the blistering ointment renewed in that manner once a month or oftner, as the horse can be spared from business, till the cure is compleated. This is the only method to prevent scars, which firing of course leaves behind, and unless skillfully executed, too often likewise a fullness on the joint with stiffness; the mild blistering ointment, where the sublimate is left out, is the the properest for this purpose.

A *blood-spavin* is a swelling and dilatation of the vein that runs along the inside of the hock, scribed.

hock, forming a little soft swelling in the hollow part, and is often attended with a weakness and lameness of the hock.

The cure. The cure should be first attempted with the restrungents and bandage above recommended which will contribute greatly to strengthen all weaknesses of the joints, and frequently will remove this disorder, if early applied: but if, by these means the vein is not reduced to its usual dimensions, the skin should be opened, and the vein tied with a crooked needle and wax thread passed underneath it, both above and below the swelling, and the turgid part suffered to digest away with the ligatures: for this purpose the wound may be daily dressed with turpentine, honey and spirit of wine, incorporated together.

A bog-spavin described. A *bog-spavin* is an encysted tumor on the inside the hough, or according to Dr. Bracken, a collection of brownish gelatinous matter, contained in a bag, or cyst, which he thinks to be the lubricating matter of the joint altered, the common membrane that incloses it, forming the cyst: this case he has taken the pains to illustrate in a young colt of his own, where he says, When the spavin was pressed hard on the inside the hough, there was a small tumor on the outside which convinced him the fluid was within side the joint: he accordingly cut into it, discharged a large quantity of this gelatinous matter, dressed the sore with dossils dipped in oil of turpentine, putting into it, once in three or four days, a powder made of calcined vitriol, allum and bole: by this method of dressing the bag sloughed off and came away, and the cure was successfully compleated without any visible scar.

The operation and cure.

This

This disorder, according to the above description, will scarcely submit to any other method, except firing, when the cyst ought to be penetrated to make it effectual; but in all obstinate cases that have resisted the above methods, both the cure of this, and the swellings called wind-galls should, I think, be attempted in this manner. If through the pain attending the operation or dressings, the joint should swell and inflame, foment it twice a day, and apply a poultice over the dressings till it is reduced.

C H A P XXXIV.

Of Mallenders and Sallenders.

Mallenders are cracks in the bend of the horse's knee, that discharge a sharp indigested matter; they are often the occasion of lameness, stiffness, and the horse's tumbling.

Sallenders are the same distemper, situate on the bending of the hough, and occasion a what lameness behind.

They are both cured by washing the parts with a lather of soap warmed, or old chamberlye; and then applying over the cracks a strong mercurial ointment spread on tow, with which they should be dressed night and morning till all the scabs fall off: if this should not succeed, anoint them night and morning with a little of the following, and apply the above ointment over it.

TAKE hogs lard two ounces; sublimate mercury two drams.

I 5

Take

Take the next from *Gibson*, which is to be depended on.

Æthiops mineral half an ounce; white vitriol one dram; soft green soap six ounces.

Anoint with this often, but first clip away the hair, and clear the scabs. On their drying up, it may be proper to give a gentle purge or two; or the nitre balls may be taken advantageously, for a fortnight, or three weeks.

CHAP. XXXV.

Of Lampas, Barbs, and Wolves Teeth.

The lampas, described.

THE *Lampas* is an excreffence in the roof of the horse's mouth, which is sometimes so luxuriant that it grows above the teeth, and hinders his feeding. The cure is in lightly cauterising the flesh with a hot iron, taking care that it does not penetrate too deep, so as to scale off the thin bone that lies under the upper bars: the part may be anointed with burnt allum and honey, which is proper for most sores in the mouth.

Barbs Barbs are small excreffences under the what, and tongue, which may be discovered by drawing how cured. it aside, and are cured by cutting close off, and washing with brandy, or salt and water.

Wolves teeth, what.

A horse is said to have *wolves teeth*, when the teeth grow in such a manner, that their points prick, or wound either the tongue, or gums, in eating. Old horses are most liable to this infirmity, and whose upper overshoot the under teeth in a great degree.

To

To remedy this evil you may either chop off the superfluous parts of the teeth with a chizel and mallet, or file them down, which is the better way, till you have sufficiently wasted them. The cure.

C H A P. XXXVI

Of the GREASE.

IN order to treat this disorder with some propriety (without having recourse to *humours* falling down for its explanation) I shall consider it as arising from two different causes; a fault or relaxation in the vessels, or a bad disposition in the blood and juices; but unless the reader has some idea of the blood's circulation, or will give himself a little trouble to obtain it, this doctrine will be of little use to him, and he must be content to be still imposed on with the usual cant of *humours*. We have already explained our meaning on this subject in a preceding chapter, and shall here only observe, that the blood and juices (or *humours*, for there are always some in the best state of blood) are brought to the extreme parts by the arteries, and returned by the veins; in which latter the blood is to rise in perpendicular columns, to return the circulating fluids from the extremities: hence swellings in the legs of horses may easily be accounted for, from a partial stagnation of the blood and juices in the finer vessels, where the circulation is most languid; and especially when there is want of due exercise, and a proper muscular compression on the vessels to push forward the returning blood, The
grease to
be confi-
dered as a
disorder of
the vessels
as well as
the blood.

How
swellings
in the
limbs are
occasion-
ed.

and

and propel the inert and half stagnating fluids through their vessels; in short the blood in such cases cannot so readily ascend as descend, or a greater quantity is brought by the arteries than can be returned by the veins.

The
grease
should
sometimes
be treated
as local.

The grease then considered in this light, must be treated as a local complaint, where the parts affected are alone concerned, the blood and juices being yet untainted, and in good condition; or as a disorder where they are both complicated: but when it is an attendant on some other distemper, as the farcy, yellows, dropsy, &c. such diseases must first be cured before the grease can be removed. In the former case moderate exercise, proper dressing, cleanliness, and external applications, will answer the purpose; in the latter, internals must be called in to our assistance, with proper evacuations.

How
swelled
heels
should be
treated.

When a horse's heels are first observed to swell in the stable, and subside, or go down, on exercise; let care be taken to wash them very clean every time he comes in, with soap-suds, chamberlye, or vinegar and water, which, with proper rubbing, will frequently prevent, or remove this complaint: or let them be well bathed twice a day with old verjuice, or the following mixture, which will brace up the relaxed vessels; and if rags dipped in the same are rowled on with a proper bandage, for a few days, it is most likely the swellings will soon be removed by this method only, as the bandage will support the vessels, till they have recovered their tone. To answer this end also, a laced stocking made of strong canvass, or coarse cloth, neatly fitted to the part, would be found extremely serviceable,

serviceable, and might easily be contrived by an ingenious mechanick.

TAKE rectified spirit of wine four ounces, A repel-
dissolve in it half an ounce of camphire, ling wash.
to which add wine-vinegar or old ver-
juice six ounces; white vitriol dissolved
in a gill of water, one ounce; mix to-
gether, and shake the phial when used.

But if cracks or scratches are observed
which ouse and run, let the hair be clipped
away, as well to prevent a lodgment (which
becomes stinking and offensive by its stay) as
to give room for washing out dirt or gravel,
which if suffered to remain there, would great-
ly aggravate the disorder.

When this is the case, or the heels are full Poultrices
of hard scabs, it is necessary to begin the cure often ne-
cessary.
with poultrices, made either of boiled turneps
and lard, with a handfull of linseed powder-
ed; or oatmeal and rye flower, with a little
common turpentine, and hogs lard boiled up
with strong beer grounds, or red wine lees.
The digestive ointment being applied to the
sores for two or three days, with either of
these poultrices over it, will by softening them,
promote a discharge, unload the vessels, and
take down the swelling; when they may be
dried up with the following:

TAKE white vitriol and burnt allum, of A drying
each two ounces; Ægyptiacum one water.
ounce; lime-water a quart or three pints:
wash the sores with a sponge dipped in
this, three times a day, and apply the
common white ointment spread on tow;
to an ounce of which may be added two
drams of sugar of lead.

Or the following wash and ointment may be
used for that purpose.

TAKE

Another,
drying
water.

TAKE half an ounce of Roman vitriol, dissolve it in a pint of water; then decant off the clear into a quart bottle, add half a pint of camphorated spirits of wine, the same quantity of vinegar, and two ounces of *Ægyptiacum*.

A drying
ointment.

TAKE honey four ounces, white or red lead powdered two ounces, verdigrease in fine powder one ounce; mix together.

Some for this purpose apply allum-curd; others a strong solution of allum in verjuice, with honey: and many of these forms may easily be contrived. But let it be remembered, that as soon as the swelling is abated, and the moisture lessened, it would be very proper to keep the legs and pasterns rolled up with a firm bandage, or linen rowler two or three fingers wide, in order to brace up the relaxed vessels, till they have recovered their natural tone.

How
treated
when from
an inter-
nal cause.

This method is generally very successful when the distemper is only local, and requires no internal medicines: but if the horse be full and gross, his legs greatly gorged, so that the hair stares up, and is what some term *pen-feathered*, and has a large stinking discharge from deep foul sores, you may expect to meet with great trouble, as these disorders are very obstinate to remove, being often occasioned by a poor dropical state of blood, or a general bad disposition in the blood and juices.

The cure in this case, if the horse is full and fleshy, must be begun by bleeding, rowels and repeated purging; after which diuretic medicines are frequently given with success. Thus,

TAKE

TAKE four ounces of yellow rosin, one A diuretic of sal prunellæ; grind them together drink with an oiled pestle, add a dram of oil of amber, and give in a quart of forge water every morning, fasting two hours before and after taking, and ride moderately.

As this drink is found very disagreeable to some horses, I would recommend the nitre balls in its stead, given to the quantity of two ounces a day, for a month or six weeks, mixed up with honey, or in his feeds: Take the following also for that purpose.

YELLOW rosin four ounces, salt of tartar Diuretic and sal prunellæ, of each two ounces; balls. Venice soap half a pound; oil of juniper half an ounce; make into balls of two ounces weight, and give one every morning.

Or,

TAKE nitre two ounces; camphor one dram, honey enough to make into a ball; give as the former.

The legs in this case should be bathed or Fomented, in order to breathe out the stagnant juices, or to thin them, so that they may sometimes be able to circulate freely in the common current. For this purpose foment twice a day with the discutient fomentation, p. 149, in which a handful or two of wood ashes has been boiled; apply then the above poultices, or the following, till the swelling has subsided, when the sores may be dressed with the green ointment till they are properly digested, and then dried up with the water and ointment above recommended.

TAKE honey one pound, turpentine six A ounces, incorporate with a spoon; and discutient add poultice.

add of the meal of fenugreek and linseed each four ounces ; boil in three quarts of red wine lees to the consistence of a poultice ; to which add, when taken from the fire, two ounces of camphor in powder, spread it on thick cloths, and apply warm to the legs, securing it on with a strong rowler.

If the sores are very foul, dress them with two parts of the wound ointment and one of *Ægyptiacum* ; and apply the following, spread thick on cloths, and rowled on.

A
cleansing
poultice.

TAKE of black soap a pound, honey half a pound, burnt allum four ounces, verdigrease powdered two ounces, wheat-flower a sufficient quantity.

If the diuretic balls should not succeed, they must be changed for the antimonial and mercurial alteratives, already mentioned ; but turning a horse out into a field, where he has a hovel or shed to run to at pleasure, would greatly contribute to quicken the cure, and indeed would in general effect it alone ; but if this cannot be complied with, let him be turned out in the day-time.

A large
stall ne-
cessary.

If the horse is not turned out, a large and convenient stall is absolutely necessary, with good dressing and care : this stall should be six feet wide, that a tall horse may shoot out his legs at length, so that the blood may circulate freely, without meeting with resistances, which it naturally must, when a horse lies all on a heap, or with his legs under him : nor should the stable be paved with too great a declivity, for if the horse stands too low with his hind legs, most of his weight will rest upon them, and give him the
grease,

grease, especially if he is at all inclined to be gourdly.

The last thing we shall recommend, is a A horse method to oblige a horse to lay down in the stable. This undoubtedly is of the utmost lying down, of consequence, as it will not a little contribute great service to the removal and cure of this disorder; for by only changing the position of his legs, a freer circulation would be obtained, and the swelling taken down: whereas in general it is greatly aggravated by the obstinacy of the horse, who refuses to lie down at all (probably from the pain it gives him to bend his legs for that purpose; by which means the stiffness and swelling increases, till the over-gorged and distended vessels are obliged to give way, and by bursting, discharge the fluids which should circulate through them.

The method proposed by Dr. *Bracken* is to How to tie up one of his fore feet close, and to fasten make him a cord or small rope about the other fetlock, lay down. bringing the end of it over the horse's shoulders; then let him be hit, or kicked with your foot behind that knee, at the same time pulling his nose down strongly to the manger, you will bring him upon his knees, where he should be held till he is tired, which cannot be long; but if he does not lie down soon, let him be thrust sideways against his quarters to throw him over: by forcing him down several times in this way, you may teach him to lie down at the same words you first used for that purpose.—Other means are recommended for this purpose, such as tying the horse's tail with a cord, touching his skin with oil of vitriol, &c.

Thus have I endeavoured to distinguish this disorder, and to point out when and where
internals

internals are necessary, and in what cases the cure may be effected by external applications only.

C H A P. XXXVII.

Of Scratches, Crown-Scabs, and Rat-Tails.

Scratches in the heels have so much affinity with the grease, and are so often concomitants of that distemper, that the method of treating them may be selected chiefly from the preceding chapter; which at first should be by the linseed and turnep poultice, with a little common turpentine, to soften them and relax the vessels; the green ointment may then be applied for a few days to promote a discharge, when they may be dried up with the ointments and washes recommended in the above chapter. It is best afterwards to keep the heels supple, and softened with curriers dubbing, which is made of oil and tallow. This will keep the hide from cracking, and be as good a preservative as it is to leather; and by using it often before exercise, will prevent the scratches, if care is always taken to wash the heels with warm water, when the horse comes in. When they prove obstinate, and the sores are deep, use the following; but if any cavities or hollow places are formed, they should first be laid open, for no foundation can be laid for healing, till you can dress to the bottom.

Scratches,
how treat-
ed.

An oint-
ment for
obstinate
scratches.

TAKE Venice turpentine four ounces,
quicksilver one ounce; incorporate well
together by rubbing some time, and
then

then add honey and sheeps suet, of each two ounces.

Anoint with this once or twice a day ; and if the horse is full or fleshy you must bleed and purge ; and if the blood is in a bad state, the alteratives must be given to rectify it.

The crown-scab is an humour that breaks out round the coronet, which is very sharp and itching, and attended with a scurfyness: sharp waters prepared with vitriol, are generally used for the cure : but the safest way is first to mix marshmallow and yellow basilicon, or the wound ointment, equal parts, and to spread them on tow, and lay all round the coronet. A dose or two of physick may be very proper, with the diuretic drinks, p. 183. and the alteratives above recommended, in rebellious cases. *vide* Chap. on alteratives. The crown scab, how treated.

Rats-tails are excrescences which creep from the pastern to the middle of the shanks, and are so called from the resemblance they bear to the tail of a rat. Some are moist, others dry ; the former may be treated with the drying ointment and washes, p. 181, 182. the latter with the mercurial one, p. 64. If the hardness does not submit to the last medicine, it should be pared off with a knife, and dressed with turpentine, tar and honey, to which verdigrease or white vitriol may occasionally be added ; but before the use of the knife you may apply this ointment :

TAKE black soap four ounces, quick-lime two ounces, vinegar enough to make an ointment.

C H A P. XXXVIII.

*Of the Diseases of the FEET.**Of Narrow Heels, and Binding of the Hoof, &c.*

Narrow
heels often
ruined by
bad shoe-
ing.

How they
should be
managed.

THOUGH narrow heels in general arise from a natural defect, yet they are often rendered incurable by bad shoeing; for some farriers hollow the quarters so deep and thin, that they may be pinced in with the fingers, and think by that method to widen them out by a strong broad webbed shoe; but this turns them narrow above, wires their heels, and dries, or rots the frog. The best way in all such cases is not to hollow the foot in shoeing, and to pare nothing out, but what is rotten or foul; if the foot be hard and dry, or inclined to be rotten, bathe it often with chamberlye, or boil two pounds of linseed bruised in two quarts of the same, to the consistence of a poultice, then add six ounces of soft green soap, and anoint the foot with it every day, rubbing a little of it upon the foal.

Or,

An oint-
ment for
the hoofs.

TAKE bees wax two ounces, fresh butter or lard six ounces, tar one ounce, as much linseed or neats-foot oil as will make it the consistence of a smooth ointment.

How dry
hoofs
should be
treated.

The hoofs if too dry may be anointed with the above, or with lard only; some for this purpose use tar, tallow and honey, but most greasy and unctuous applications will answer this intention; the feet also if too dry, may
be

be stuffed with bran and lard heated, or worked up together in the hand; which is very proper also to apply every night, when your horse is travelling in hot weather, on roads that are dry and hard; cow-dung likewise is a proper stuffing for the feet, but vinegar should cautiously be mixed with it; for though it is a known cooler, it is a remarkable restraining, which in this case would be extremely prejudicial; instead of which a print of fresh butter may be first applied to the sole, and the cow-dung laid over it.

There is another disorder the hoofs are subject to which is their being too soft and moist; this may be constitutional, or proceed from going much in wet and marshy grounds, standing constantly in wet litter, or any infirmity that may bring too great a moisture into the feet. In this case the horse's hoofs may be bathed every day with warm vinegar, verjuice, copperas water, and such like restraining; to which may be added galls, alum, &c. remembering to let the horse stand constantly dry. How moist hoofs should be treated.

We say a horse is hoof-bound, when the hoof is so tight round the instep, that it turns the foot somewhat into the shape of a bell. This is caused sometimes by shoeing as above, to widen the heel, and sometimes by cutting the toes down too much, which gives that shape to the foot, and causes the horse to go lame. Hoof-bound, what.

To remedy this disorder, Mr. Gibson recommends the following method; Let the foot be drawn down from the coronet almost to the toe with a drawing knife, making seven or eight lines or razes, through the hoof, almost How remedied.

Of Sand-Cracks and Quittors.

almost to the quick ; afterwards keep it charged with pitch or rosin, till the lines are wore out in shoeing, which will require several months; therefore horses are generally turned out to grass. Before we close this chapter, take these ointments for the feet and hoofs, viz.

Ointments for the feet and hoofs.

Sweet oil, rosin, and hogs lard, each a pound, bees wax two ounces, honey a pound, melt together,

Or,

TAKE basilicon one pound, wax and neats-foot oil, of each half a pound, rosin four ounces, mix, together.

C H A P. XXXIX.

Of Sand-Cracks and Quittors.

A sand-crack described.

WHAT is called a sand crack is a little cleft on the outside the hoof; if it runs in a straight line downwards, and penetrates through the bony part of the hoof, it often proves troublesome to cure; but if it passes through the ligament that unites the hoof with the coronet, it is then apt to breed a quittor, or false quarter, which are dangerous.

How treated.

When the crack only penetrates through the hoof, without touching the ligament, unless the hoof be hollow, it may easily be cured, by rasping only the edges smooth, and applying thick pledgits of basilicon, and binding them down with a piece of soft list; if some precipitate be added to it, this medicine will be improved thereby, and in general answers the end, without any other application.

application. But if you perceive any hollow-
ness under the hoof, and that the cleft has a
tendency to penetrate through the gristle or
ligament, the best method in that case is to
fire out of hand with irons that are not made
too hot, first rasping very thin and wide,
from both sides of the cleft. The horse must
not carry any weight for some time, but be
turned out to grass, or wintered in a good
farm yard.

A quittor is an ulcer formed between the hair and hoof, usually the inside quarter of a horse's foot; it arises often from treads and bruises, sometimes from gravel, which by working its way upwards, lodges about the coronet: if it is only superficial, it may be cured with cleansing dressings, bathing the coronet every day with spirit of wine, and dressing the sore with the precipitate medicine.

But if the matter forms itself a lodgment under the hoof, there is no way then to come at the ulcer, but by taking off part of the hoof; and if this be done artfully and well, the cure may be effected without danger.

When the matter happens to be lodged near the quarter, the farrier is sometimes obliged to take off the quarter of the hoof, and the cure is then, for the most part, but palliative; for when the quarter grows up, it leaves a pretty large seam, which weakens the foot; this is what is called a false quarter, and a horse with this defect, seldom gets quite sound.

If the matter by its confinement, has rotted the coffin-bone, which is of so soft and spongy a nature, that it soon becomes so; you must enlarge the opening, cut away the bone is rotten affected.

rotten flesh, and apply the actual cautery, or hot iron pointed pyramidically, and dress the bone with dossils of lint dipped in tincture of myrrh, and the wound with the green or precipitate ointment. When the sore is not enlarged by the knife, which is the best and less painful method, pieces of sublimate are generally applied, which bring out with them cores, or lumps of flesh; blue vitriol powdered, and mixed with a few drops of the oil, is used also for this purpose, and is said to act as effectually, and with less pain and danger; during the operation of these medicines, the foot, I think, should be kept in some soft poultice, and care should be taken, during the whole dressing, to prevent proud flesh rising, which otherwise will not only retard the cure, but prevent a firm and sound healing.

C H A P. XL.

Of Wounds in the Feet, from Nails, Gravel, &c.

Wounds in the feet should particularly be attended to.

In what manner they should be treated in general.

Accidents of this sort are very common, and sometimes for want of early care, prove of bad consequence; for the parts being naturally tender, are very susceptible of inflammation; and when matter is once formed, if a free discharge is not procured, the bone which is spongy soon becomes affected, and the whole foot is then in danger.

When any extraneous bodies, such as nails, stubs, thorns, &c. have passed into the horse's foot, you should endeavour to get them out as soon as possible; and after washing

ing the part with oil of turpentine, dress the whole with lint dipped in the same melted down with a little tar; the foot may be stopped up with bran and hogs lard heated together, or put it into the turnip or any soft poultice: this method is generally successful, when the nail, &c. is intirely removed; but if any piece or particle should remain behind, which may be suspected by the degree of pain, and discharge of matter; after paring away the sole as thin as possible, introduce a bit of sponge tent, in order to enlarge the hole, that it may be drawn out by a small pair of forceps, or brought away by digestion. If this method should not succeed, but the lameness continues with a discharge of a thin, bloody, or stinking matter, you must no longer delay opening the wound with a drawing knife to the bottom, and then dress as above directed, or with the turpentine digestive divided with the yolk of an egg, and a little tincture of myrrh; afterwards with the precipitate medicine.

If the lameness proceeds from pricking in shoeing, the foot should be pared thin on the wound side, and after dressing with the tar and turpentine, let it be stopped up with the poultices above mentioned, or with two ounces of common turpentine melted down with four of lard; should this method not succeed, follow the above directions.

When gravel is the cause, it for the most part follows the nail holes, and if it gets to the quick, cannot return, unless it is scraped out; for the make of the hoof, which is spiral like an ear of corn, favours its ascent, so that the gravel continues working upwards

K

towards

towards the coronet, and forms, what the farriers call a quittor-bone.

The cure. The nature of this disorder points out the method of cure, which is to be as expeditious and careful as possible in getting out the gravel; if it is found difficult to effect this, let the sole or hoof be pared thin, and if necessary, the wound enlarged to the bottom, and then dressed up as usual. Should the coffin-bone be affected, you must follow the directions laid down in the preceding chapter, remembering always to bathe the hoof with vinegar or repellers, in order to allay the heat and inflammation, which often happen on such occasions; and should the pain and anguish affect the legs, treat them in the same manner, or charge the leg and pastern with a mixture of wine lees and vinegar.

C H A P. XLI.

Of the Running Thrush, and Canker, and Loss of Hoof.

The running thrush described.

THE thrush or frush is an imposthume that sometimes gathers in the frog; or a scabby and ulcerous disposition, which sometimes causes it to fall off. When the discharge is natural, the feet should be kept clean, but no drying washes made use of, it being thought as unsafe to repel some of these discharges, as to cure some sweaty feet.

The method of cure.

When an imposthume or gathering appears, the safest way is to pare out the hard part of the frog, or whatever appears rotten, and wash the bottom of the foot two or three times a day with old chamberlye; this is the safest

safest and best way of treating them. But when a horse has been neglected, and there is a strong flux to the part, it is apt to degenerate into a canker, to prevent which, use the following :

TAKE spirit of wine and vinegar, of each A wash
two ounces, tincture of myrrh and aloes for the
one ounce ; *Ægyptiacum* half an ounce ; thrush.
mix together.

Bathe the thrush with this, wherever there appears a more than ordinary moisture, and lay over the ulcer a little tow dipped in the same. The purges and diuretics recommended in the grease should be given at this time, to prevent the inconveniencies that the drying up these discharges frequently occasion.

A canker in the foot proceeds for the most A canker
part from thrushes, when they prove rotten decrib'd
and putrid, though many other causes may with the
produce this disorder. The method used by cure.
farriers for the cure, is generally with hot
oils, such as vitriol, aqua fortis, and butter
of antimony, which are very proper to keep
down the rising flesh, and should be used
daily till the fungus is suppress'd, when once
in two days will be sufficient, strewing fine
precipitate powder over the new grown flesh,
till the sole begins to grow.

There is one great error committed often Observa-
in this cure, that is, in not having sufficient tion.
regard to the hoof; for it should not only be
cut off, wherever it presses on the tender
parts, but should be kept soft with linseed oil ;
and as often as it is dress'd, bathe the hoof
all round the coronet with chamberlye.
Purging is very proper to compleat the
cure.

The loss
of the
hoof, how
repaired.

The loss of the hoof may be occasioned by whatever accident may bring an imposthumation in the feet, whereby the whole hoof becomes loosened, and falls off from the bone. If the coffin bone remains uninjured, a new hoof may be procured by the following method.

The old hoof should by no means be pulled off, unless some accident happens that requires its removal, for it serves as a defence to the new one, and makes it grow more smooth and even, and indeed nature will in general do this office at her own proper time.— On the removal of the hoof, a boot of leather with a strong sole, should be laced about the pastern, bolstering and stopping the foot with soft flax, that the tread may be easy : dress the sore with the wound ointment, to which should be added the fine powders of myrrh, mastich, and olibanum. If this medicine should not be sufficient to prevent a fungus, burnt allum or precipitate may be added to it, and the luxuriant flesh may be daily washed with the sublimate water.

C H A P. XLII.

Of Venomous Bites from Vipers and Mad Dogs.

The
action of
poisons,
not to be
accounted
for.

THE action of poisons on animal bodies has hitherto appeared of so intricate a nature, and the nervous system, which is so principally affected by them, so imperfectly understood, that it is no wonder the most ingenious authors have given so little satisfaction in treating this subject; we shall therefore only

only offer such remedies and methods of cure, as stand recommended to us on the best authority.

The first intention is to prevent the poison mixing with the blood; this possibly might be effected, if the part would admit of being instantly cut out with a knife, that cupping glasses might be applied to empty the vessels, and the wound afterwards cauterised with a hot iron. The surrounding parts should afterwards be well bathed with sallad oil, and the sore dressed once or twice a day with hot *Ægyptiacum*. It is necessary also that it should be kept open for forty days at least, with a piece of sponge or orrice root smeared over with the precipate ointment, or that prepared with Spanish flies: these seem to be the chief external remedies to be depended on.

Internally, for bites from vipers, may be given cordial medicines, such as Venice treacle and salt of hartshorn, an ounce of the former with a dram of the latter every night for a week; or, where it can be afforded, a proportionate quantity of the famous Tonquin remedy of musk and cinnabar, so much recommended in bites from infected animals.

To prevent the tragical effects of the bite from a mad dog, give the above medicines; or the method recommended by Dr. Mead, described, may be pursued in the following manner: for bites take away three quarts of blood, and give the horse night and morning half an ounce of ash-coloured ground liver-wort, and a quarter of an ounce of pepper; this remedy may be continued a week or ten days, when the horse should be plunged into a river or pond every morning for a month or six weeks.

The

Dr. James's
mercurial
method
recom-
mended
for the
same.

The following mercurial method having been found successful both in dogs and men; I thought proper to recommend it as a remedy for horses, and indeed think it more to be depended on than most others. Dr. James has given a full account of it in the *Philosophical Transactions*, to which I refer the curious reader for particulars, observing only that the quantity of turbith given so successfully to dogs, was seven grains the first dose, and twelve the second, at the distance of twenty four hours each, which was repeated every other day for some little time: this course was also repeated at two or three succeeding fulls and changes of the moon.

The same method may be observed in giving this medicine to a horse, the quantity only being augmented to a scruple and half a dram each dose; the directions laid down in the chapter on *Farcy*, being attended to. There are various other remedies directed for these purposes, but the present, I think, are chiefly to be relied on.

We shall close this chapter however with the following, which has long been in great esteem, and is by some thought to be an infallible cure for the bite of a mad dog.

A
drink for
venomous
bites.

Take six ounces of rue; Venice treacle, garlick, and tin scraped, of each four ounces; boil in two quarts of ale over a gentle fire, to the consumption of half; strain off from the ingredients, and give the horse four or five ounces every morning fasting.

The ingredients may be beat in a mortar, and applied daily to the wound as a poultice.

C H A P. XLIII.

Of Gelding, Docking, and Nicking of
Horses.

TO treat of the operations in farriery, is somewhat foreign to our original design; but as we have a new apparatus and method to offer, concerning the Nicking of horses, we were induced also to make some few observations on Gelding and Docking, especially as the symptoms of the latter, and manner of treating them, are on similar principles.

Without entering into particulars, we shall only observe that the *Gelding* of a foal, is an operation of little consequence, and seldom attended with any bad symptoms; yet the extirpating the stones of a full grown horse, requires the care and ingenuity of a good artist. The usual method of securing the spermatic vessels, is by cauterising their extremities, and filling up the scrotum or bag with salt: this method, though successfully practised on young colts, should by no means be trusted to, in grown horses; but after the scrotum is opened, and the stone turned out, a strong waxed thread should be tied round the chord, and then the testicle cut off: this undoubtedly is the most effectual way to secure the vessels, as the eschar from burning may by accidents be removed, and a profuse bleeding ensue before it is discovered.

Some useful observations on gelding.

The wound may be dressed with the usual digestive; but should a fever, or inflammation ensue, bleed largely, and follow the directions laid down in the chapter on *Fevers*:
K 4

The ligature preferred to the cautery.

The manner of dressing, and general treatment should.

Of Gelding, Docking, and

should the belly and sheath swell, foment twice a day, and bathe often with oil of roses and vinegar, till the tumor subsides and wound digests.

Some general directions in relation to docking. In regard to the *Docking* of horses, though it is an operation so common, and in general so successfully executed, yet, as it does now and then miscarry, by an inflammation and gangrene succeeding, which sometimes are communicated to the bowels: we have thought proper to lay down some general rules and directions, both in relation to the operation, and the subsequent manner of treating the symptoms; and as these most probably arise from the tendons of the tail, suffering by an injudicious application of the knife or searing iron, or an improper season for the operation, we shall first observe, that the very hot or cold months are by no means proper for that purpose, for reasons we apprehend obvious to every one: the next observation we shall make is that it should always be performed by incision, or the chopping engine; the knife being passed through the tail from above, while it lays on the block; for when the cutting instrument is applied underneath, the blow is then given on the tail, which of course by bruising the tendons, may well be suspected to occasion bad symptoms: The last observation we shall make is in regard to the searing iron, which should be smooth and better polished than those generally used, and ought to be rubbed clean on a woolen cloth, before the application to the stump, otherwise the sparks which fly from the iron, are apt to occasion great pain, with swelling both of the sheath and fundament; nor should it ever be applied flaming hot, for then it brings the burnt part away

Cautions
in searing.

away with it, and as it requires a re-application, in order to form a new eschar on the vessels, the bone by these means is frequently left too much exposed, so that it is often a considerable time before it is covered.

Farriers seldom apply any thing to the stump; which need only be anointed with the wound ointment, and when the eschar is digested off, may be washed with allum or lime-waters: but if an inflammation ensues, with a discharge of thin matter, the turpentine digestive with tincture of myrrh, p. 154. should be applied with the bread and milk poultice over it; bathe the rump often with oil of roses and vinegar, bleed largely, and observe the cooling method laid down in the chapter on *Fevers*; and if the fundament is swelled, and the inflammation at all suspected to be communicated to the bowels, let cooling emollient glysters particularly be injected two or three times a day. Should a gangrene ensue, add *Ægyptiacum* to your dressings, and spirits to the fomentation; and apply over all, the strong-beer poultice with London treacle twice a day:—These seem to be the only means to be depended on, and will without doubt, in general be successful, when applied in due time.

The manner of dressing the stump, and general treatment.

Before we describe the operation of Nicking, it may be necessary to inquire how the effect of it (the elevation of the tail) is brought about; and in order to know this, and judge with propriety of the operation, we must consider the tail as elevated or lifted up, by one set of muscles, and depressed or pulled down by another.

It is somewhat remarkable, that *Snape*, *Observations*, *Saunier*, and *Gibson*, who in general are

pretty exact in their anatomical descriptions, should omit, in their account of the muscles of a horse, to describe those of the tail; for which reason as a proper opportunity has not offered, to supply this omission, by making a complete dissection, with that accuracy we could have wished; it is hoped the subsequent imperfect description will be excused, as it was taken only from a tail, that was dissected after docking.

An anatomical description of the tail.

Here we observed, that the muscles which elevate the tail, are more numerous, large, and strong, than those that depress it; that they are closely connected to the bones of the tail by fleshy fibres, and terminate in strong tendons, at the extremity: but the muscles of the latter soon form into tendinous expansions, and three large tendons which are inserted into the latter bones of the tail: there are several other small tendons, which run laterally, whose use most probably is to move the tail sideways. The arteries are two in number, and run above the bones of the tail, consequently easily avoided by a dextrous hand, as they cannot readily be wounded by the knife, in dividing the tendons necessary to be cut in this operation.

The operation described.

The art of nicking horses then chiefly consists in a transverse division of these depressing tendons of the tail, and such a position afterwards, as will keep their extremities from coming again into contact; so that an intervening callus fills up the vacuity: by these means an additional power is given to the antagonist muscles, *viz.* the elevators; the counter-action of the depressors being manifestly abated by the division of the tendons, and the intervention of the callus.

The

The usual method of supporting the tail by a pulley and weight, is liable to many exceptions, the extremities of the divided tendons not being by that method kept sufficiently asunder; the situation of the tail being rather inclined to a perpendicular, than a curved direction: this position too is liable to many variations, from the different movements of the horse, and is the reason that the tail frequently inclines to one side; as the nick may heal up faster on one side than the other; the disagreeable situation the horse must stand in, with a weight constantly hanging to his tail, is another material objection, besides the necessity of removing it when the horse is exercised, or taken out to water.

To remedy these inconveniences, and perfect this operation, a very ingenious gentleman, who had thoroughly considered it, has been so kind as to favour me with a draught, and description of a machine, he contrived for that purpose; which has frequently been practised with the expected success, and indeed at first view appears in every respect calculated to correct all the defects in the old one: as I doubted not its reception being perfectly agreeable to the publick, I have ordered a plate to be engraved, which, with the annexed description, will, I hope, make it very familiar and intelligible to every capacity.

In regard to the operation, it is worth no-
 tice, that the extremities of the tendons, which jut out in the operation need not here be cut off, as is customarily done; the number of the incisions must be in proportion to the length of the tail, but three in general are

are sufficient. The most approved method of dressing at first, is with powdered rosin and spirit of wine, applying a soft doffil of lint or tow, dipped in the same, between each nick, and lapping the tail up with a linen cloth and broad fillet; which the next morning should be cut open down the back part of the tail, and the morning after be gently taken off: when it will be proper to plat the hairs, in order to keep them clean, and to set the tail, as will be directed in the plate and references.

Some general directions.

Every two or three days the tail should be let down, and the upper part next the rump bathed with hot vinegar; and if it begins to crack, and the hair comes off, a little tincture of myrrh will soon put a stop to it. To obviate any threatening symptoms that may arise in regard to the wounds, have recourse to the above directions in docking.

After six or eight days, it will be proper to let the horse stand without the machine for a few hours, and then be rode about, in order to observe how he carries his tail; by which means you will the better judge how to fasten it down, whether to confine it closer, or give it more scope: after the wounds are healed up, it may be necessary to keep the tail suspended, till the callus is confirmed, at least for some hours in the day; though a greater liberty may now be allowed it.

The advantages of the machine.

Thus this machine answers every intention, is far preferable to the pulley, as it keeps the tendons properly separated, and the tail in a certain position; so that the wounds heal up uniformly, without any risk of its being cast to one side; the horse is also more at ease having

having no weight constantly pulling and teasing him, and may be taken out to water or exercise, without any inconveniency or disturbance.

C H A P. XLIV.

Of Ruptures, Anticor, Colt-Evil or Gonorrhæa, Diseases of the Mouth and Feet.

HAVING omitted in their proper places to speak of the above disorders, some of which are not very common or peculiar to horses in this climate, I have thought proper to throw them together in this last chapter, that the reader might not be disappointed in his enquiries after their cure.

In regard then to ruptures, though they are Ruptures generally divided into particular classes, we described, shall only observe, that by violent efforts of the horse, or other accidents, the guts or caul may be forced between the muscles of the belly at the navil, and through the rings of the muscles into the scrotum or cod. The swellings are generally about the size of a man's fist, sometimes much larger, descending to the very hock; they are frequently soft, and yield to the pressure of the hand, when they will return into the cavity of the belly with a rumbling noise; and in most the vacuity may be felt, through which they passed.

On their first appearance, endeavours should be made to return them by the hand; but if the swelling should be hard and painful, in order to relieve the stricture, and re-ruptures, lax the parts, through which the gut or caul has

has passed, let a large quantity of blood be immediately taken away, and the part fomented twice or thrice a day, applying over it a poultice made with oatmeal, oil and vinegar, which should be continued till the swelling grows soft and easier, or the gut is returned. In the mean time it would be proper to throw up emollient oily glysters twice a day, and to let the horse's chief diet be boiled barley, scalded malt or bran.

Should the swelling afterwards return, I apprehend the restraining applications usually recommended on these occasions, will avail little without a suspensory bandage; so that an ingenious mechanic in that art is chiefly to be relied on, for any future assistance; though it has been observed, that with moderate feeding, and gentle exercise, some horses have continued to be very useful under this complaint.

The
anticor
described.

The anticor is a disorder not very common among our *English* horses, or those in northern climates; but is particularly taken notice of by the *French*, *Spanish*, and *Italian* writers; who describe it a malignant swelling in the breast, which extends sometimes to the very sheath under the belly; it is attended with a fever, great depressions and weakness, and a total loss of appetite; but this last symptom may probably be owing to an inflammation which is supposed to affect the whole gullet and throat, so great, as to make the horse swallow with the utmost difficulty, and to endanger suffocation.

The cure. The cure should first be attempted by large and repeated bleedings, to abate the inflammation; emollient glysters should be injected twice or thrice a day, with an ounce of sal
prunellæ

prunellæ in each, and the cooling drink in the chapter on *Fevers* should be given inwardly; the swelling should be bathed with the marshmallow ointment, and a ripening poultice with onions boiled in it, should be daily applied over it. If by this method, continued four or five days, the inflammation in the throat and gullet is removed, our attention should more particularly turn to encourage the swelling at the breast, and bring it if possible to matter: to which end, continue the poultice, and give two ounces of Venice treacle dissolved in a pint of beer every night; when the swelling is grown soft, it must be opened with the knife, and dressed with the turpentine digestive, the danger now being over.

But should it be found impracticable to bring the swelling to matter, and it increases upwards, so as to endanger suffocation; authors have advised to pierce the tumor with a hot pointed cautery in five or six places, to dress with the above digestive, and in order to stimulate and promote a greater discharge, to add to it a small quantity of Spanish flies and euphorbium in powder; fomenting at the same time, and bathing the circumjacent parts with ointment of marshmallows. M. *Gueriniere*, as well as *Soleysel*, have advised, opening the skin when the tumor cannot be brought to matter, in order to introduce a piece of black hellebore root steeped in vinegar, and to confine it there for twenty-four hours; this also is intended as a stimulant, and is said to answer the intention, by occasioning sometimes a swelling as big as a man's head.

Besides the disorders of the mouth, which Disorders of the mouth described.

we have already animadverted on, there are frequently observed on the inside the lips and palate, little swellings or bladders, called Giggs: flitting them open with a knife, or lancet, and washing them afterwards with salt and vinegar, is in general their cure; but when they degenerate into what are called Cankers which are known by little white specks, that spread and occasion irregular ulcers; the best method then is to touch them daily with a small flat cautery, moderately heated, till the spreading is stopped, and to rub the sores three or four times a day with *Ægyptiacum* and tincture of myrrh, sharpened with oil or spirit of vitriol; when by this dressing the sloughs are separated, they may be washed frequently with a sponge dipped in copperas or sublimate water, if they continue to spread; or a tincture made by dissolving half an ounce of burnt allum, and two ounces of honey in a pint of tincture of roses. Either of these will dry them up, and are very useful in most disorders of the mouth.

A relaxation of the palate. A relaxation, and swelling of the palate, sometimes happens to horses on catching cold. To remedy this disorder, blow pepper on the part, or anoint it with the same mixed up with honey. The tincture above-mentioned may be used for this purpose, to which may be added half an ounce of spirit of sal armoniac.

The colt-evil, and cure. The colt-evil is supposed to arise from stoned colts having full liberty with mares, before they are able to cover them; whence frequently ensues an excoriation, or fretting on the glands, and a swelling of the sheath; this last disorder frequently proceeds too from dirt

dirt or filth lodging there, and is often removed by washing the part clean with butter and beer: but when the yard itself is swelled, foment it twice a day with marshmallows boiled in milk, to which may be added a little spirit of wine; anoint the excoriation with the white ointment, or wash it with a sponge dipped in lime water, to a pint of which may be added two drams of sugar of lead: the yard should be suspended up to the belly, and if the swelling should increase with inflammation, bleed and give the cooling physick, anoint with ointment of elder, and apply the bread and milk poultice.

If a simple gonorrhœa, or seminal gleet is observed to drip from the yard, (which is often the case in high fed young horses, where a relaxation of the glands and seminal vessels has been brought on by frequent emissions) let the horse be plunged every day into a river or pond; give him two or three rhubarb purges, at proper distances, and intermediately the following balls:

TAKE of balsam of copivi, or Venice turpentine, olibanum and mastich powdered, of each two drams; bole armeniac half an ounce: mix up into a ball with honey, and give it night and morning till the discharge lessens, and then every night till it goes off.

Balls prepared with rhubarb and turpentine, may also be given for this purpose, two drams of the former, with half an ounce of the latter:

But should this method not prove successful, two or three spoonfulls of the following injection, may be thrown up his yard every day with a syringe.

TAKE

Of Ruptures, Anticor, &c.

TAKE balsam of copivi half an ounce, break it with the yolk of an egg, and add to it lime water half a pint, honey of roses two ounces.

Where an ulcer on the prostate glands is suspected, this injection is very proper at first, to deterge, and heal the sore; but those more restringent, should afterwards be used, in order to close up the relaxed ducts; for this purpose take the following.

Tincture of roses one pint, burnt allum two drams, white vitriol half a dram, or a dram.

But it is worth remarking, that if the horse continues to shed his seed, by rubbing his yard against his belly; no medicines will avail, till he is cured of this vicious habit; which probably nothing will so effectually contribute to remove, as castration or a proper indulgence with mares.

Observation.

The Indian rhubarb is not expensive; it may be bought at prime cost, under twelve pence an ounce.

Figs,
warts,
gripes,
&c.

Figs are spongy swellings on the bottom of horse's feet, generally on the sides of the frush. These or any other kind of excreffences, such as warts, corns, grapes, &c. are best removed by the knife; and if any part of them be left behind, or should shoot up afresh, touch them with the caustick, or oil of vitriol, and dress with Ægyptiacum, to which may be added, when they are very rebellious, a small quantity of sublimate; when the roots are quite destroyed, you may incarn with the precipitate medicines and dry up the sore with the following:

A drying wash.

TAKE of white vitriol, allum, and galls in powder, of each two ounces; dissolve them

them by boiling a little in two quarts of lime water, and keep in a bottle for use, which should be shook when used.

These drying kind of medicines are seldom used to advantage before the knife; per observation, which should not be spared on these occasions, even though the roots of some of these excrescences are fixed, as they frequently are, on the tendon and sole; for they must be entirely extirpated before a radical cure can be performed. Should a large bleeding ensue, from a division of the artery in the bottom of the foot, apply close to it a button of tow or lint covered with powder of allum, or with vitriol and bole; fill the whole foot up with dry dressings, closely applied, and secure them on by a proper bandage. Observe the preceding directions in regard to inflammation; and dress the wound according to the rules we have already laid down.

An Explanation of the two Heads and Trepan, mentioned in Chap. XII.

B. B. two lines representing the bounds of the cerebellum, or back part of the brain, which is very small in a horse, in proportion to that of a man, as well as the brain itself, which commences from the line D.

C. C. a line where the superior part of the sinus frontalis commences, together with a view of the bottom of this sinus, which terminates between the lines D and E, where there appears a substance in the form of a pear, which is the os ethmoides, or sieve-like bone; through which the olfactory nerves pass, by which the pituitary membrane receives its sensibility, and the sense of smelling is performed.

E,

E, represents the beginning of the maxillary sinus, which terminates at M.

The shaded space which may be observed between these two lines, represents the great cavities. The oblique ray marked F, is a bony partition, which separates this sinus into two parts, that have no communication; and sometimes it happens (though but rarely) that there are two bony partitions; and for this reason they are represented by the lines marked F and G. It also sometimes happens (but still more seldom) that there are horses, in whose heads we do not find any of these bony partitions.

N. points out the place of the cornets or horns. O, the redoublings. P, their middle part. Q, the inferior part of them. M, the bony canal or pipe which guards the maxillary nerve.

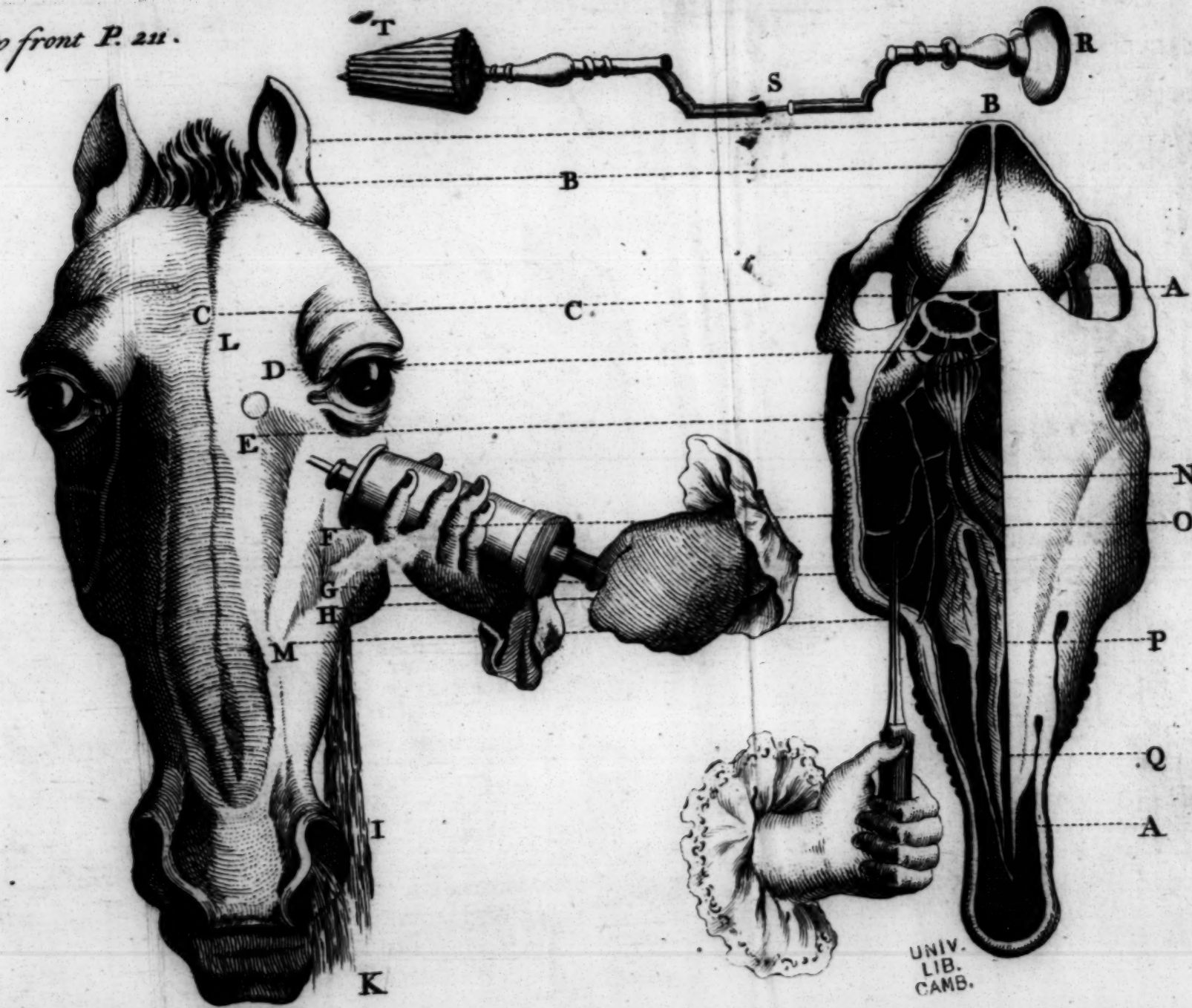
A, A, the septum narium, or partition, which divides the nose from top to bottom, and constitutes the two nostrils.

L, in the head that is intire, points out where the trepan should be applied on the frontal sinus, when we have reason to believe the glanders is spread into this sinus. However I think it safest to apply it first on E, for the reasons mentioned in the next explanation, and because the brain may be endangered, should the sinus be mistook.

E, the place where the trepan may be applied, in order to cleanse the maxillary sinus. The round mark between D and E (which is the impression of the trepan) is however on experience preferred by the author, as the properest place; as one orifice would then be sufficient to wash all the parts, both above and below, with the injection.

But

to front P. 211.



But in general, when the maxillary sinus only is affected, penetrate but the upper part, where the syringe points or thereabouts, and your expectations will be answered; should they not, there seems so little danger in the operation, that you may again perforate at the places above mentioned, higher up. But a proper number of experiments, will soon settle this point with certainty.

H, in the head that is intire points out the place where another hole, or perforation should be made, as a drain to give issue to the glanderous matter washed away by the injection; which could not be discharged without such a depending orifice; and perhaps this perforation alone, in many recent cases, would be sufficient, provided the injection passed freely upwards, and the hole was kept open by means of a hollow leaden pipe constantly retained in it for that purpose, and to procure a free passage for the matter.

I, represents the injection pushed in by the syringe, which flows out by the orifice and the nostril K; during the use of the syringe, it is necessary to hold the nostrils close.

If, in the maxillary sinus, instead of one, there happens to be two bony partitions; it is absolutely necessary to pierce through them both, by means of a stileto, or sharp-pointed tuck, as in the manner represented in the cut of a horse's head opened; though this conformation seldom occurs.

As these bony partitions may in some particulars vary, should the stileto not have the desired effect, and the injection thrown in by the syringe not come out at H; in such case the liquor should be injected upwards, through the orifice made by the stileto or trepan at H.

As

Directions for the Application

As in young horses the frontal and maxillary sinusses are very small, it will be proper to direct the trepan towards the interior part of the nose; otherwise the instrument might work upon the roots of the teeth, which incline towards the sinus, and would in such case be an insurmountable obstacle to the operation.

R, the instrument or trepan. S, the handle which turns it. T, the saw part to be applied to the bone.

From a view of this instrument, the manner of working it will appear simple and easy. The cooper's managing his wimble being a proper directory.

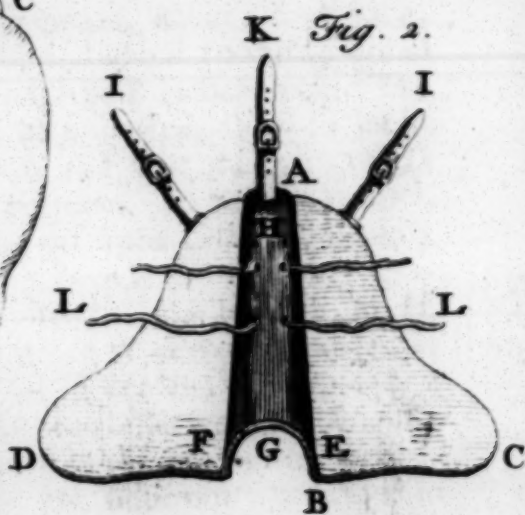
The instrument called the trephine, which is chiefly used by our *English* surgeons in perforating the skull, will equally answer this purpose; and if any difficulties should arise, notwithstanding this description, the gentlemen of the faculty will soon make it familiar and intelligible.

Before the application of the trepan, or trephine, it is quite necessary to observe, that a circular piece of the skin should first be cut off, with the membrane which covers the bone, about the size of a half crown piece; in order to make the instrument work the easier, and to prevent the inconveniences which might arise, from the external wounds healing up too fast.

The syringe should be large enough to contain half a pint of injection.

Directions for the Application of the Nicking Machine; and Explanation of the Plates.

WHEN the hair of the tail is properly platted, and tied with a knot or two
at



at the end, the pad, &c. as described in Fig. I. must be put on, and the machine, as in Fig. II. buckled, to them, letting the part G. in the machine lie over the part of the tail, that joins to the horse's rump; then let an assistant, standing on the side rail of a brake, or any other conveniency that may place him above the horse, raise the horse's tail very gently, till the knot of the tail gets so far beyond the strings LL in Fig. II. that it may be tied down, which being done, the tail may be let down lower, or taken up higher at pleasure. It is to be observed, that the ligature is not made on the tail itself, but on the platted hair, at the extremity of the stump.

The machine, Fig. II. must be made of a piece of tough wood, about a foot long, viz. from A to B, and about 19 inches broad from C to D, and 7 or 8 inches thick. The under part must be hollowed, so as to let in the horse's rump, and that the wings CD may rest on his buttocks. To receive the tail, a groove must be cut from G to H, about 3 inches wide and 3 deep at G, lessening gradually both in height and breadth to H. Holes must be made at certain distances in the groove, as at H for the string, and a nick cut to receive the billet from the strap K. Two buckles fixed to the machine as at II.

The pad, &c. are sufficiently described in Fig. I, and its references: the wood must be sloped off from E to C and A, and so on the other side, to lighten the machine, and hollowed at B. G. F.

FIG. I.

Represents a horse with his tail in the frame, or machine. A, is a pad, to which

is fastened a surcingle B. CC two side straps, one on each side the horse, fastened to the surcingle to keep the machine from going to either side; D a breast-plate, to prevent the pad, &c. slipping back. E a strap fixed to the pad, and buckling to the machine, to keep the tail on the stretch at pleasure. F the string tied on the hair, to confine the tail down to the machine.

FIG. II.

From A to B is 12 inches; from C to D measured with a string drawn over E F is 19 inches. From the top of the groove at E to the bottom G is 3 inches. From E to F, the widest part of the groove, is 3 inches, gradually narrowing, as a tail lessens to its extremity. The dots about H are holes in the groove, through which a piece of tape or pack-thread must be put, according to the length of the dock, and the distance of the knot, to tie the tail down behind the knot. II. the buckles, to receive a strap from the surcingle on each side, as described in Fig. I. which keeps the machine from turning to either side. K the strap with a billet and buckle, which comes along the back from the pad, and is fastened to the machine through a nick cut just above H. LL the strings to tie down the tail. B. G. F. the hollow to let in the rump.

FIG. III.

Represents the horse with the machine on, standing directly before you, where the depth of it is shewn, being three inches.

C. D. the extremities of the wings.

E. F. the upper part.

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OBSERVATIONS

AND

DISCOVERIES

MADE UPON

HORSES,

WITH

A New Method of Shoeing.

CONTAINING,

- | | |
|---|--|
| I. The exact Anatomy of a Horse's Foot. | Minutes; and the Arteries cicatrised by this Means only. |
| II. The History of the Causes and Seat of different Diseases, said to be in the Hip, or Shoulder, which lame the Horse, and are demonstrated to be in the Foot. | IV. The new Method of shoeing Horses, both for preserving their Feet, and to prevent their slipping upon smooth Pavements. |
| III. The extraordinary Effects of the Powder of Puff-balls, in the stopping of Blood in a few | V. Some necessary Precautions to be observed to prevent the Glanders. |

By the Sieur LA FOSSE,
FARRIER to the King of FRANCE.

Presented to the Royal ACADEMY of SCIENCES.

To which is added,

Mr. BARTLET's Account of Mr. LA FOSSE's
Observations on HORSES.

Illustrated with several COPPER PLATES.

DUBLIN:

Printed for C. WYNNE, and J. EXSHAW.

M DCC LVII.

EXTRACT *from the* REGISTRY *of the* A-
CADEMY *of* SCIENCES.

WE have, by Order of the Academy,
*examined a Manuscript of the Sieur
la Fosse, Farrier of the King's Stables.*

*And for which We cannot avoid giving
the Sieur la Fosse due Praise for his Zeal
and Capacity in his Endeavours to perfect
and extend the Knowledge of his Profession.
We think these Memoirs merit being printed
among the Collection of the Papers commu-
nicated to the Academy.*

MORAND FERREIN.

I Certify the above Approbation to be a-
*greeable to the Judgment and Intention
of the Academy.*

GRANDJEAN DE FOUCHY.

T H E
EDITOR'S PREFACE
T O T H E
R E A D E R.

SINCE experimental philosophy has been so happily propagated by the learned of our own nation, it has been spread and adopted into all the seminaries of Europe, wherever the native curiosity of mankind, gratified and improved by an application to the liberal arts, has prevailed. It is to this we owe, this day, the benefits arising to mankind, from the progress made in physic and surgery. It is to this we owe the removal of prejudices in every part of learning, and the replacing of it with certainties and plain truths; and it is, in a word, from this the reciprocal benefits accruing from one nation to another, by their improvements and inventions, daily arise.

However negligently the diseases of horses have been heretofore committed to the care of the most ignorant among mankind; the great use these animals are of in the œconomy of life, has at last pointed out to men of sense and learning to take them into their consideration: Comparative anatomy has excited them, and the great similarity of parts, offices, and functions in the structure of a horse with those of human nature, was a sufficient allurements to invite gentlemen to take them under a more mature consideration, and to rescue those noble animals from the hands of the most illiterate empirics.

I do not intend to expatiate upon the use and importance of those animals in life, as they are evident already to every observer; I mean only to give some little account of the improvements made by the *Sieur la Fosse* upon arriery in the following treatise;

which I am the more ready to do, that those of my countrymen, whose concerns require the employment of horses, may profit by it in their management and the cure of their diseases.

Nor would I in the least forget the sensible treatises wrote and published by our own authors Gibson, Bracken and Bartlet, who have treated the subject in a learned manner, and who made early and ingenious steps towards reducing it to a rational system; well knowing it was a matter of weight enough to engage the most sagacious in the improvement of an art, from which so considerable a benefit arises to the greater, and indeed the superior, part of mankind.

The former of these authors was the first that wrote on farriery in an anatomical and scientific manner, which was in the early part of life, when he was invited to England (from Scotland) where he had the care of his Majesty's horse, and was always consulted by the troop farrier (when the subject could not be immediately under his care) and made intimate with the success of his prescriptions; which led him into such a knowledge in that science, that he judged it would be a singular service to communicate it to the public, which he did in a magnificent manner in one volume quarto. This edition he just lived to see received in a respectable manner, by all the lovers of horsemanship. His directions in the choice of a horse must be always useful, and, if attended to, will prevent many of those deceptions which are industriously imposed. For, by what fatality I know not, this fraud is thought less criminal than many others, and frequently transacted by persons of honour in every other dealing. His method of feeding and exercise, with his directions in the choice of the horse's food, will enable every gentleman to avoid being imposed on by his groom or providore, and by which he may superintend the care of them, of which they are well worthy, as they contribute so much to his health and pleasure.

But

But I should think myself wanting in the duty I owe my country, if I did not propagate among them, whatever occurred to me that might tend to such laudable ends, in the most speedy and best manner I could. And therefore as soon as this valuable little book came to my hands, I took care to take the proper measures for communicating to the public, those useful hints that appeared in it upon the most important points of farriery; being additional discoveries to what has already been ever made in any country.

This author then has given the anatomy of a horse's foot, and in the most clear manner laid down the different degrees of punctures a horse is liable to, and their different consequences, which he has carefully demonstrated by proper representations in copper plates, as well as amply provided for in the method of cure, as far as human skill and penetration can go; and in the whole, it appears that he is very well versed in the anatomical distribution of the parts of a horse, or has been assisted by some able anatomist: and from his observations on the parts, he has found that farriers were perpetually rowelling, cauterising, and applying topical medicines to parts of horses that had no ailment, by their ignorance of such as were the real seats of their disorders.

In this edition is purposely omitted what has been wrote relative to the cure of the glanders in horses; Mr. Bartlet having improved our author's discoveries, which he has since adopted; but care has been taken to preserve some directions which are given by way of precaution against that malignant disorder.

I shall only take the liberty to add briefly a word or two concerning two other points of as great moment as those mentioned; the first is his application of the powder of the Puff-balls to stop the blood in divided arteries, and the other is an improvement upon the manner of shoeing horses.

As to the first he has made such undeniable experi-

ments in cases of amputation of limbs and other parts, that the certificates of the Royal Academy of Sciences at Paris were readily granted him, and indeed the great benefit of this discovery does not stop here; it will be extended to cases of amputation in mankind, and be capable of taking away a considerable part of their pain as well as other accidents, that sometimes attend the usual methods in surgery, of providing against dangerous hæmorrhages.

In a word, the reader will find many curious remarks upon the methods of shoeing, which it were to be wished, our farriers would soon come into; and many precautions which cannot fail of giving great satisfaction, as well as conduce very much to the profit of all keepers of horses.

Mr. Bartlet, from the opinion he has of Mr. La Fosse's observations on horses, judged them a proper appendix to his piece on farriery: In some places closely copying, in others abridging and connecting the performance, so as to reduce the whole to a small compass, interspersed with remarks. The publishers judged it would not be displeasing to the reader, to find Mr. Bartlet's copy of the author's treatise, with the opinion of so good a judge; which perhaps may throw it into a new light, and give a credit (if any is wanting) to the performance, so that what is here recommended, may with more ease prevail against a practice so long followed by our horse shoers.

Dublin, September 6, 1756.

WE can assure the Public, that this method of shoeing is already introduced into England, and that several gentlemen have arrived to this kingdom, who rode their cattle from London to Holyhead, shod with the shoes recommended, which have answered so much to their expectations that they have resolved to continue the practice. The publishers have been obliged with a model of the shoe, by which a number are made, for the greater ease of introducing them into use; which are to be had with the Treatise.

A TABLE

A
T A B L E
O F
O B S E R V A T I O N S.

1. **T**HE anatomical plate of the dissected parts of a horse's foot, with their several figures crossed by six parallel right lines, the space of which shews, upon every part, the importance of the accidents that happen to them; so that the quality and seat of each may be sufficiently known, to make a true prognostic upon their different kinds, without having studied anatomy.

2. That the cause of the lameness in horses, which is commonly looked for in the shoulders or haunches, is in the foot, proceeding from the compression of the fleshy sole, by the coronary bones pushing against it: this lameness often becomes incurable by the coalescing of these bones, for want of applying remedies as soon as perceived.

3. The rupture of the great tendon called the Tendo Achillis.

4. The fracture of the coronary bone into three pieces, and sometimes more.

5. The fracture of the nut-bone into two, and sometimes three parts, but always fractured with the coronary bone.

6. The fracture of the foot bone only in two.

7. The manner of stopping the blood of the great arteries cut asunder, without either ligature or caustic; with the judgment of the Royal Academy of Sciences, in consequence of the reports of the committee, testifying the experiments made before them.

8. The method of shoeing horses, in order to secure them upon a pavement in summer, or in winter, although quite smooth; and the advantages attending it; 1st. They are not so liable to cast their shoes. 2. The fleshy sole is secured from several accidents: 3. To preserve the legs and render their motions more easy.

THE ANATOMICAL TABLE.

The dissected parts of a horse's foot, and their figures, crossed by six horizontal, parallel right lines, the space of which indicates, upon every part, the importance of the accidents that happen to them; so that the quality and seat of each may be sufficiently known, to make a true prognostic upon their different kinds without having studied anatomy.

EXPLANATION of the FIGURES of the FIRST PLATE.

THE first figure represents the bottom of a horse's foot.

A. is the horny sole.

B. The frog.

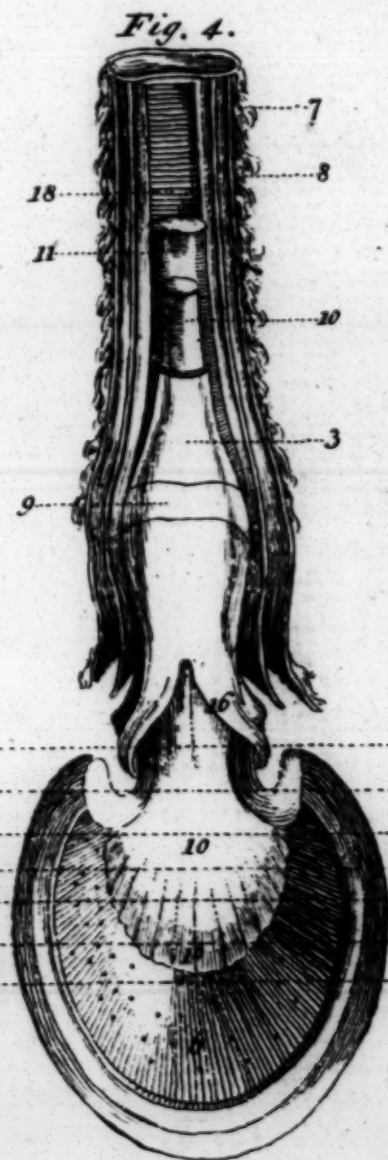
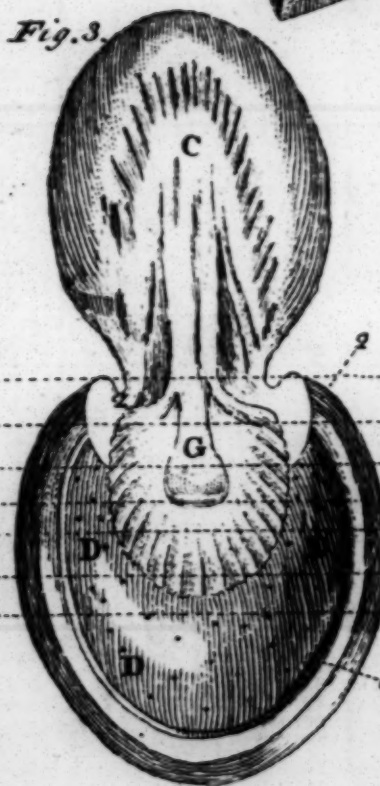
2. The *hoof* towards its lower edge, called by the author the wall of the foot.

Figure the second shews the horny sole A. raised from the fleshy sole C. round which is the enchanneled flesh, 6. placed in the sulcus of the inner surface of the hoof: 5. The horny part of which is soft and white.

Figure the third represents the under part of the fleshy sole C. raised from the foot bone * D, G the covering or *theca* of the *Tendo Achillis*. 2. The cartilage. 6. The edge of the fleshy sole confined in the furrow of the channelled horny substance.

* The foot-bone is Gibson's *Coffin-bone*.

The



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The fourth figure shews a back view of the leg.

7. The skin laid open, in order to view the inner soft parts belonging to the articulations.

8. The aponeurotic membrane, formed of different laminæ, which separate the muscles and cutaneous tendons.

9. and 3. Are partly the covering of the flexor tendon of—

5. The coronary bone *, which serves as a covering to the Tendo Achillis, 10.

11. The ligament of the canon-bone, the pastern and the coronary bones.

16. The cut in the capsula of the tendon of the coronary bone.

18. The canon-bone †.

6. The foot-bone.

Figure the fifth is the same leg and in the same view.

2. The foot bone.

1. The Tendo Achillis, dissected to shew the coronary bone 6.

3. The nut-bone ‡.

4. The concave part of the foot-bone to which the tendon is fixed.

7. The ligament of the foot-bone with the nut-bone.

8. The ligament of the tendon with the nut-bone.

Figure the sixth represents the *Tendo Achillis* raised and separated from figure 5. To shew the

* The coronary bone is the little pastern of Gibson.

† French authors call those bones, *Canon bones* both before and behind, which Gibson calls in the fore legs, the *Shank bones*, and in the hind legs the *Instep bones*.

‡ The nut-bone called by the French *Os de la noix* is a little oblong bone, placed across at the junction of the little and great pasterns behind, which is not taken notice of by Gibson.

lamina 8. which serves as a ligament to the nut-bone of the same figure.

Figure the seventh shews the enchannelled flesh, 1. The wall or hoof being raised from it; 2. The rough border that surrounds the enchannelled flesh above the hoof.

3. The cartilage of the foot.

4. The extensor tendon of the foot.

Figure the eighth demonstrates the bone of the foot Z, the enchannelled flesh of which is rais'd with the cartilage.

5. The ligament of the coronary bone with that of the foot.

3 and 4. The extensor tendon of the foot.

The second plate, containing figures of the osteology and fracture of the bones.

Figure the first represents a fore view of the leg.

3. The canon-bone cut across at the upper end.

4. The pastern bone.

5. The coronary bone.

6. The foot bone.

The second figure is a back view of the same leg.

8. The canon bone.

4. The pastern.

5. The coronary bone.

3. The nut-bone which cannot be seen in a fore view.

6. The foot, or coffin-bone.

The third figure is another back view of the same leg.

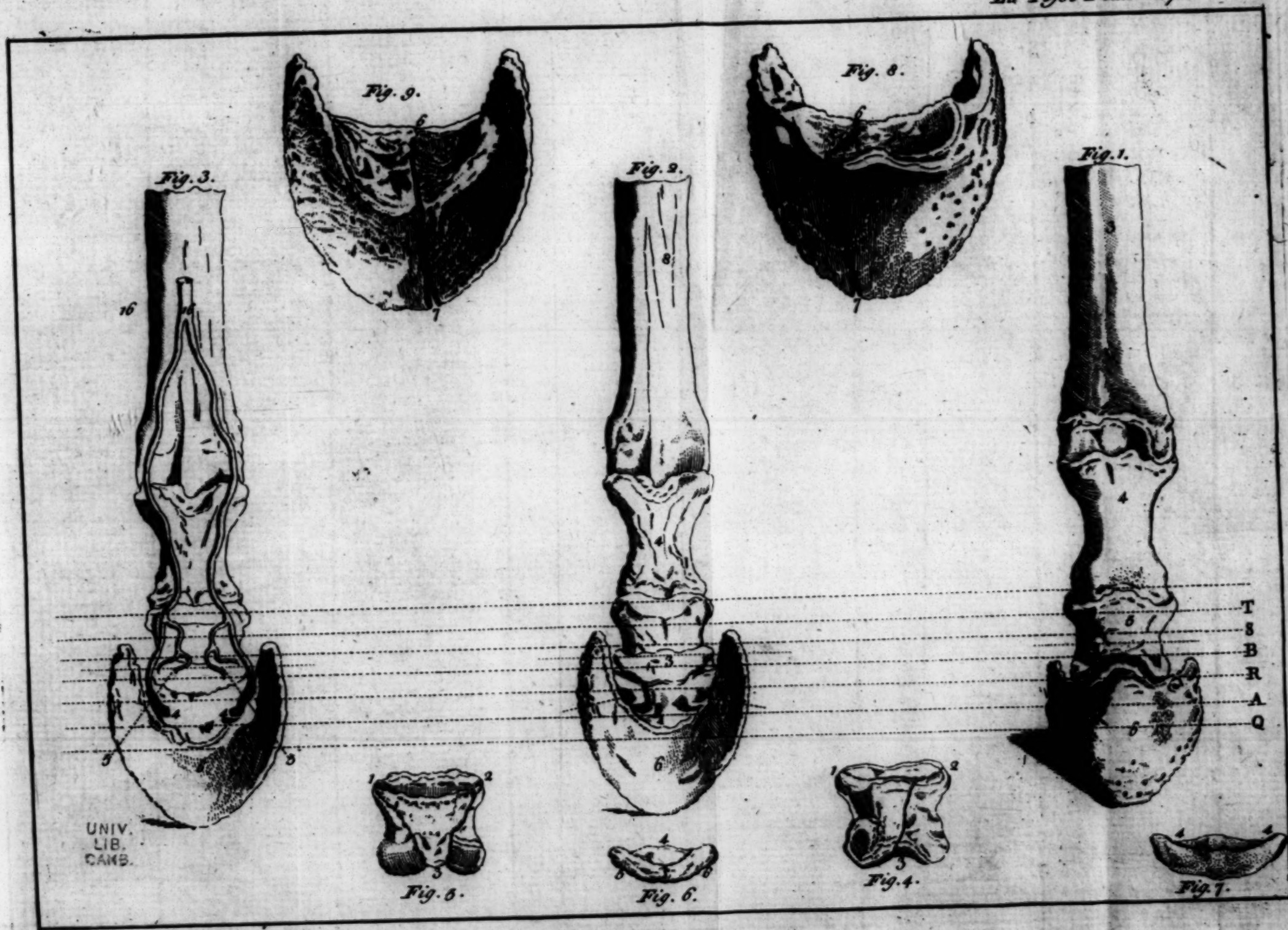
16. The place where the artery divides into two branches.

5. The distribution of these two branches round the foot.

4. The holes into which these two branches pass, in the foot.

6. The foot bone.

The



The fourth figure is the coronary bone viewed anteriorly, with the marks of its fractures, 1, 2, 3.

The fifth figure is the same coronary bone in a back view with the appearance of the same fractures, 1, 2, 3.

The sixth is the nut-bone fractured into three parts, 4, 5, 6.

The seventh shews the same bone fractured in two, 4, 4.

The eighth is a figure of the foot bone viewed on its upper surface fractured in two, with the mark of the fracture, 6, 7.

The ninth is a view of the under surface of the same bone, with the fracture marked 6. 7. This bone is very spongy.

OBSERVATIONS *upon such Accidents as often happen to horses feet, which give them a sudden lameness, the cause of which cannot be discovered.*

OBSERVATION I.

A **L**ame horse was committed to my care, but I could receive no manner of information concerning his disorder; and after I had dressed him for eight and twenty days, without either discovering the cause, or the least success: they put him into the hands of another farrier, who also attended him fifteen days longer. The owner of the horse seeing this man's endeavours as fruitless as mine, gave him up to me, and I cut off his leg in order for dissection; and found the *Tendo Acbillis* ruptured near its insertion, and the coronary bone broke into three pieces, without any dislocation; having as recent an appearance as if they had been fractured but a day; altho' the accident happened six weeks before. And not being able to find out how, nor by what particular effort this bone could be broken; nor whether it was begun
by

by the foot, or pastern bone ; I shewed it to several skilful persons, who after a long examination appeared as much at a stand about it as myself. Nor was there any sudden effort of the horse observed before it.

OBSERVATION II.

With respect to such efforts, I myself saw a horse, put to a coach, fracture the coronary bone at his setting off.

OBSERVATION III.

I happened to pass by a coach, when the coachman, ready to put off, whipped his horse, who instantly made a spring, and became suddenly lame ; having observed it, I felt his foot, and the rattling noise I was sensible of, by touching him, indicated the coronary bone to be fractured ; and the dissection farther proved the *Tendo Achillis* to have been ruptured near its insertion, as may be seen by the figures.

OBSERVATION IV.

A horse who was put to a coach, being at the same time very quiet, received a cut of a whip from the coachman, which made him tremble, whence he suddenly fell lame ; the coachman saw it and looked at his foot. And though nothing ailed him to appearance, he put him into the stable. I was called and found the coronary bone fractured, declaring him incurable ; but this was doubted, because they had not observed any effort made by the horse before it ; however they took care of, and dressed him for a month, but as he grew no better, they put him to death ; I dissected his foot to shew them I was not mistaken ; I demonstrated that the coronary bone was fractured into three pieces : but was surprised to find the nut-bone also broke in two, and the *Tendo Achillis* entire, because I never saw fractures of this kind before, among the many dissections I had made.

OBSERVATION

OBSERVATION V.

Having examined a horse, whose shoulder was dressed, which was thought the seat of his disorder; I asserted it was in the foot, caused by the compression of the coronary bone; for, that being in motion, it raises and pushes the nut-bone against the tendon, which puts the fleshy sole in a state of compression, as if between an anvil and hammer. It formed an inflammation there, and therefore they ought to have immediately drawn the sole; but as they had lost some time, and seeing he did not mend, I saw him again, and found a small swelling at the coronet, which I shewed, and they resolved upon drawing the sole. They accordingly drew it out, after having fired the tumor; but he was not cured. He remained eight months in pain when they killed him. I found the *Tendo Achillis* ossified at its insertion with the coffin-bone, and this with the nut and coronary-bones, round which the cartilage was also coalesced, so that all these parts formed one entire body*, the pieces of which I have yet by me. These examples make it apparent that the compression of the fleshy sole, for want of a speedy remedy becomes incurable.

OBSERVATION VI.

Of a singular fracture which happened in 1743. I was called to see a horse who became suddenly lame of his two hind feet, being put to a coach. It was thought he had strained his reins; I examined him, and declared his disorder was in his feet, and that it was incurable, for that he had fractures in them. I dissected these two feet and found the two coronaries fractured, and the two tendons of Achilles ruptured: this horse walked near a quarter of a league, with these two bones in that condition.

• An Anchylosis.

OBSERVATION

OBSERVATION VII.

Another horse put to a coach, without any apparent violent motion, fractured the coronary-bone in twenty pieces; while the nut-bone, that of the foot, and the great tendon remained unhurt; this was the only case of this kind I ever saw.

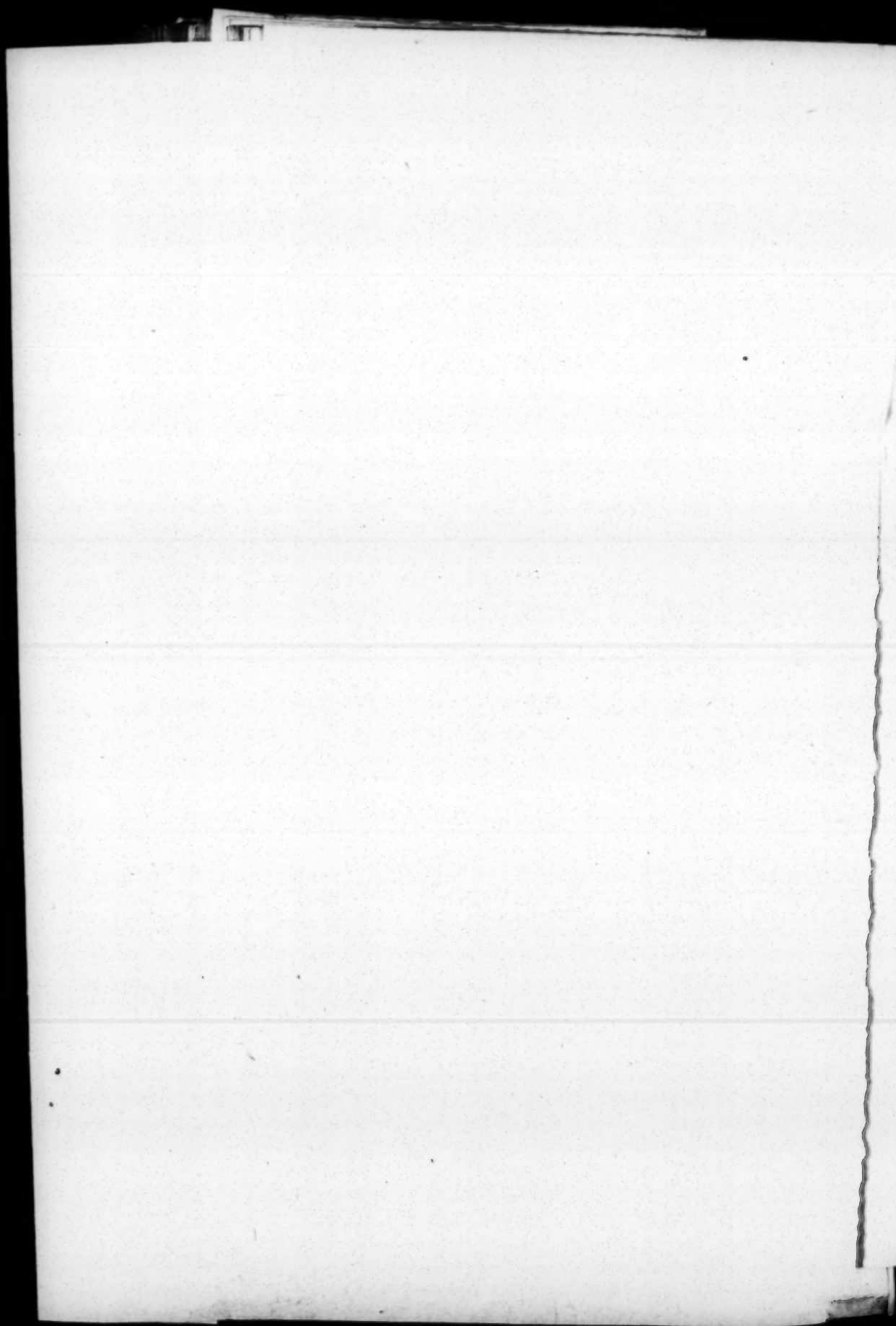
OBSERVATION VIII.

Another horse had been lame a considerable time; and it was not known whether it was in the foot or shoulder: I examined him, and found the coronary-bone fractured, and assured them his case was incurable; they doubted it, but were obliged to abandon him at the month's end; I dissected his foot and accordingly found the coronary-bone fractured in four pieces, and the nut-bone in two, the *Tendo Achillis* being safe.

OBSERVATION IX.

A horse was lame for four months; he was dressed at first above the leg, and afterwards in the foot, but his sole was not drawn; I judged him incurable, as I suspected an ankylosis, and he was put to death. I dissected the foot, and found the foot or coffin-bone fractured in two, in which fracture the ankylosis began to be formed, as well as the ossification between the coronary, nut and coffin-bones. The fracture crossed diametrically one of the cavities of the articulation, and ended towards the middle of the toe or point of the foot-bone. So that this bone appeared to be divided obliquely into two unequal parts; it is not unlikely that the horse had trod upon a stone which raised one side of his foot more than the other, and which joined to the weight of his body, caused this oblique fracture; although the foot was in a perpendicular direction; this is the second fracture of this sort I have met with; and it is curable if speedily taken in hand. I have already several feet, which are ossified like this.

OBSERVATION



OBSERVATION X.

A horse was lame for two months without their knowing his case; I pronounced the lameness to be in his foot, and shewed them a small swelling at the coronet, they attended him, but the swelling increased, for two years, by neglecting to draw the sole in the beginning. I dissected this foot, and found the nut, coronary, and coffin-bones ossified together; which was caused by the discharge of the osseous juice upon them; they were so coalesced together, that it was difficult to distinguish the places of the articulation of these three bones.

OBSERVATION XI.

An anchylosis after an inflammation. An effort or strain which might not be violent enough to fracture the coronary or nut-bones, nor even rupture the flexor tendon, might go so far as to produce an inflammation of the fleshy sole; if the inflammation is communicated to the ligaments, tendons, and capsulæ of the joints. I pronounced it always incurable by the formation of an anchylosis in the part if not instantly taken in hand. I have seen two kinds of this disease in feet dissected by myself.

OBSERVATION XII.

Drawing the sole prevents such ossifications as I have been mentioning, and relieves the fleshy sole from pressure; which sole is regarded as an expansion of the muscles and tendons of the foot; this operation enlarges the space in the hoof, the fleshy sole being no longer pressed, its inflammation ceases and the foot recovers its natural state.

When a horse's sole is drawn, care must be taken to let the foot bleed in order to empty the blood-vessels and lymphatics, to apply with the first dressings, turpentine and its spirit, or oil; and not to bind the splints too straitly, that the
inflamed

inflamed parts may not be injured, the coronet must be bathed with oil of turpentine, and the hoof dressed up all round with emollients, in order to moisten, extend and soften the parts.

OBSERVATION XIII.

The hoof of a horse may be compared to a sponge; when it is dry it contracts itself even to the inner parts; if it be moistened, it softens and dilates; if he stands long in a stable, without taking care to keep the hoofs moist, he often goes lame; because they are susceptible of contraction as well as dilatation. The compression in the hoof happens by the coronary pushing against the nut-bone, upon which it partly moves; which having the action of a lever, takes for its point of support the upper and fore-part of the foot-bone compressed, the nut-bone which it raises, and which pushes against the *Tendo Achillis*, which tendon presses the fleshy sole against the horny one; and all these combined compressions produce an inflammation upon the fleshy sole, which spreads over all the other parts.

OBSERVATION XIV.

I have happened to dress the shoulders of lame horses, because the owners insisted that the cause was in that part; although it really was in the feet, and proceeded from compression; these horses were cured without having any remedies applied to the feet, but it was by great chance, length of time, and rest; which often happens.

I can however assert that I never saw nor heard of a horse, put to hard labour, as drawing heavy carriages, or carrying heavy burdens, fracturing the coronary-bone.

OBSERVATION XV.

Strong compressions are distinguished by pushing the thumb upon the coronet: it makes the horse feel as sharp a pain as if there was a fracture;

ture; in this case no time must be lost before the sole is drawn.

When the compression is not so violent, as that it cannot be thus known by the coronet, it must be examined in the foot, the horny sole must be pared until it becomes flexible under the tool; which must be done as near the frog as can be; the tool must be pressed, and if the horse is sensible of it in that place, we may be assured that there is a compression of the coronary-bone upon the nut-bone. The method of cure is to pare the sole to the quick, to let him bleed at the point of the foot, and apply a pledget with oil of turpentine to the bleeding; also an emollient poultice in the foot and round the coronet. Above three fourths of these cases are cured without drawing the sole; but I prefer bleeding in the upper part of the foot, in expectation of the returning blood; whereby you will the better unload the part.

OBSERVATION XVI.

The most certain remedy is to draw the sole immediately. I have cured horses in fifteen days by this method, that were not able to put their feet to the ground.

Again, the length of time the compression has continued, may be known by the adhesion of the horny to the fleshy sole, for the horse bleeds but little after drawing it; because of the interruption of the circulation of the fluids by the compression.

OBSERVATION XVII.

A horse, drawing a cart heavily loaden, pressed his foot upon a piece of iron, which split the foot or coffin-bone. I took off the shoe and drew the sole immediately; and he was perfectly cured. This bone so split by the iron shews that this part, fractured by the mere effort or action of the horse, may unite, if presently taken in hand, even though

though the fracture happens above by the coronary-bone.

The fracture of the foot-bone which has no other motion but those of the fleshy and horny soles upon which it is situated, happens from one of the two convex sides of the lower part of the coronary-bone, the other side making an unequal pressure: this fracture ought to unite, because the motion of the foot-bone upon the fleshy sole is very imperceptible, being strengthened by the horny sole, enclosed all round by the enchannelled flesh, and secured over all its surface, which is equally enchannelled by the inner horny surface of the hoof, which is soft and whitish.

From all I have said above, it may be concluded, that 1. The nature of the union of the fibres of the superior parts, the tension and elasticity of which is very great in the foot, ought to render them susceptible of all the unhappy consequences of compression.

2. That it is to no purpose to keep horses who have any fractures, except in the foot-bone; the fracture of this is capable of uniting, because of its having so little motion, and is secured as I have just said.

I keep some preparations as testimonials of cases which prove, that if a nail penetrates to the joint of the foot, where matter may be formed, and by its long continuance putrify, so as to erode the cartilages of the joint, by its corrosive quality, the case is incurable.

3. When a sudden motion or effort of a horse is not sufficiently violent to fracture the articulations of the foot, the push of the coronary-bone upon the nut-bone, must occasion a strong compression upon the fleshy sole against the horny sole, which we look upon to be no more than an expansion

panfion of the nervous tufts of the muscles and tendons of the foot as we have said before.

4. That in all cafes of ftrong compreffion the inflammation muft offify the joints of the foot, by the ftagnation of the fluids, efpecially when not taken care of foon enough.

5. I have feen examples wherein, when the nut and coronary bones have been wounded by nails, or when matter has been long pent up, the cartilages of thefe bones have been eaten into by the fharpnefs of it; thefe are incurable diforders, even tho' all the other parts are found.

There can be no hopes of curing the fractures of the nut and coronary bones, as we do the ruptured *Tendo Achillis*, for all their articulations are in continual motion; and if by chance they fhould unite, the horfe would ftill inevitably be lame, by the *callus* formed in the joint, as Mr. Morand fays in his report given in to the academy.

6. I prefume the very ftructure of the foot makes it liable to feveral accidents. The hoof wherein the articulations of the upper parts afsemble, and which, befides, has its own particular motion, has need of great ftrength and folidity; becaufe all the weight of the body, bearing upon the feet, can admit neither the bones nor tendons to vary their condition.

OBSERVATION XVIII.

Having drefled a horfe whose fole was drawn, from which they had cut away part of the frog for a ftreet nail that had affected it; being almoft cured, as he lay along, he had a cut of a whip given him; he ftarted up but was lamed by the fudden fpring in rifing. I thought at firft that it was occafioned by the preffure of the coronary-bone againft the nut-bone, but about ten days after the accident, a humour appeared about the middle of the foot; I then thought the nut-bone might

might be fractured, but the humour penetrated deeper; I observed the nut-bone intire, but the tendon ruptured, and the lower part properly attached. In five or six days more this part of the tendon came off piece-meal from its adhesion, and laid the nut-bone bare. I used the *Fioraventi Balsam* * in my dressings for three months which succeeded; what gave me hopes, was my having seen some horses, whose tendons were cut across through ignorance, recover; I had a mind to know how the upper part of the tendon could reunite at its insertion upon the foot-bone, for this horse was cured. And an accident happened by which he died eleven months after, which gave me an opportunity of dissecting his foot; when I found the tendon ossified with the nut-bone, and this with that of the foot, so as that these three parts were united, and the coronary-bone had preserved the freedom of its motion in the joint. The horse was no longer lame, but in walking inclined a little upon the heel.

OBSERVATION XIX.

A horse, upon whom the extirpation of the frog for the thread, a spongy excrescence so called, was performed, had the *Tendo Achillis* much injured; I could not well tell whether it happened from cutting out the thread, or from the acrimony of the topical applications; the tendon however was destroyed as that mentioned above, the nut-bone was laid bare, and the tendon putrified at its insertion. After his cure was compleated, he died in five or six months. And I found the nut-bone covered, by a kind of ligament, all over that part which was connected with the upper part of the tendon: this new tendon was as a ligament, and adhered to the nut-bone, which was ossified to it;

* A vulnerary balsam, like the Friars Balsam.

it; but it was more than twice as thick as in its natural state. It remains to know whether this excrescence proceeds from the tendon, or from the covering of the cellular membrane, or from other membranes; but it is time and observation which must lead us to the knowledge of this.

REFLECTIONS.

IN reflecting upon the various motions a horse makes, and upon the structure of his foot, we cannot be surprised to find this part liable to so many accidents. Experience shews us, that for one horse who is lamed in the haunch or shoulder, an hundred have it in the foot, and that the knowledge of this part merits all our attention: I am of opinion these accidents happen chiefly to draught horses, and not to those of the saddle; I also think that it is the different attitudes of a horse's foot, over-charged at the same time with the weight of his body, that cause the different fractures of the coronary and nut-bones; for when the foot has not a direct position, the joints are twisted, as when a horse treads upon the point or toe of the hoof, the upper and inner part of the coronary-bone, which is in an oblique position, pressed in that state by the burthen of his own body, is forced to yield on one side, and rise on the other, its lower and back part, which now rises, drives the nut-bone against the *Tendo Achillis* which sustains it, the tendon presses in its turn against the fleshy sole, which is also compressed against the horny sole, which is its point of support; the tendon, coronary, and nut-bones become fractured upwards and backwards by the pastern, which also had an oblique position, and downwards and forwards

forwards by the foot and coffin bone, which here acts as a wedge.

The nut-bone is sometimes fractured by the lower and back part of the coronary-bone alone: but although these bones are fractured in the manner I have just mentioned, at the instant a horse gives a spring, there happens no luxation of these bones, because of the manner of their being tied and secured all round by the ligaments, the tendons, cartilages, and the construction of the hoof which incloses them and all that depend on them.

In all the horses feet I dissected, immediately after these accidents, I found the *Tendo Achillis* ruptured, and had a notion that the fracture of the coronary-bone in three pieces ought always to be followed by the rupture of the tendon, particularly after the foot is pared; or that there are frost nails or raised heels to the shoes, so that the frog is thrown up from its point of support; which will appear when we treat of shoeing.

We distinguish fractures of the coronary-bones in raising the foot by the lower part; the foot must be drawn forward, and pressed upon the coronet with the thumb, and if there is a fracture, a rattling will be perceived; when the tendon is not ruptured, it sustains the bones; and, as it is their point of support, the noise is less sensible, but it is better distinguished when the tendon is divided.

It is to be observed, as to the fracture of the foot-bone, that this bone is in a manner immovable in its place, supported in its plane by the horny sole, and in its circumference by the sides of the hoof, which keep it universally firm every way.

I never saw this bone fractured but once, and believe it curable, and what made me of this opinion was, that I happened to attend a horse who had

had the foot-bone split in two, quite through, by treading on a piece of sharp iron; and he was cured of it. A saddle-horse has a different attitude and manner of treading from that of a draught-horse; the former always has the articulated parts of his foot in a perpendicular direction, and in their proper situation for action; whereas the draught-horse is accustomed to have these parts often in an oblique position; and convenient for the attitude necessary in drawing a carriage; and accordingly a stone or fault in a pavement, happening under one side of his foot, which is thereby inclined to the other, the pressure of the coronary-bone charged with the whole weight of the body, will be very capable of causing this kind of fracture.

The METHOD of curing PRICKS and other ACCIDENTS that happen to HORSES FEET.

PLATE I. *upon all the lines.* FIGURE I.

IF a nail has only pierced the horny sole, and but lightly touched the fleshy sole, there is nothing to do.

But if there is room to suspect the bone of the foot D figure 3. is touched; a large opening must be made, in order to prevent drawing the sole, by facilitating the exfoliation.

If the nail has penetrated to the insertion of the tendon 10. figure 4. great attention must be paid to it, dressing it the oftner, that the tendon be not injured; if it passes into the concave part 4. of the foot-bone figure 5. an exfoliation will come on, without any bad consequences, provided matter be not left any time to destroy the ligament 7 upon the line R figures 1. 2. 3. 4. If the nail has not passed to the tendon, the horse will grow well without

without a necessity for drawing the sole; but if the tendon is wounded the sole must be carefully drawn, because the synovia is discharged. If the nail has penetrated to the ligament 7 fig. 5. he must be dressed lightly every day rather twice than once, taking care not to confine the tent, nor let the matter remain in any time, lest it might erode the cartilaginous parts of the nut-bone and destroy its ligaments. When the part is to be laid open, a channel'd director must be introduced to conduct the point of the bistory, in order to make a perpendicular opening, and not a transverse one, because the tendon might be cut across, which would not coalesce again, and great mischief might be produced.

Upon the line B figures 1. 2. 3. 4. the same manner of proceeding must be used, as is marked upon the line R. but if the nail is gone to the nut-bone 3. figure 5. it is incurable, because this little bone cannot exfoliate, and because the cartilaginous part of it is destroyed as soon as injured.

Upon the line S figures 1. 2. 3. 4. the same must be observed as at the line R. but if it reaches to the ligament 8. what is mentioned for the line R. must be followed, because there will be danger of corroding the lower cartilaginous part of the coronary-bone, which in this case would become incurable.

Upon the line T. there is danger only of the cartilage 2. figure 3. of which I shall make some mention; if the nail passes into the frog B. figure 1. so as not to reach the tendon, nothing comes of it, even though it penetrates through the pastern. I have made horses walk in this case, without confining them to the stables; but if it has touched the tendon, we must proceed in the method observed before. If the nail has touched between the line A. and the line R. and that it has penetrated

to 4 plate 3 figure 3. it may have pricked an artery; in which case a proper pledget must be applied in order to compress the part and stop the blood.

For all these operations the balsam of fioraventi or spirit of turpentine must be used, and the dressings prepared as we shall mention them for drawing the sole; but care must be taken when it is to be drawn, that the horny sole be not too strong, and if it be so, to pare it well that it become more flexible; otherwise in bearing with the spatula upon the edge of the hoof, we shall run the risque of forcing and separating it from the enchannelled flesh, which would produce a dangerous inflammation, of which I have seen some examples. You must observe not to raise the fleshy sole with the horny sole, nor to disfigure it, as has been done, for it prolongs the cure; but every able practitioner knows how to avoid these kinds of dangers. When the cartilage must be cut away, figure 7 and 8 plate I. if it be spoiled, part of the wall or hoof which covers it must also be taken off, as also the enchannelled flesh represented at figure 7. and then the whole cartilage without reserve; for if any part be left, although sound, it soon becomes morbid, and notwithstanding all our endeavours, we should be obliged to come to a second operation. The ligament which joins the bone of the foot to the coronary, and the capsula that contains the synovia of the joint must be carefully avoided, for touching these parts would render the disorder incurable, as if the lower part of the coronary-bone was injured figure 1. Plate II.

In order to remedy and assist this operation the sole must be drawn, if there be any matter under it, on the diseased side; but if not, it may be let alone; for the first and second dressings good firm dossils must be made, some little, some big; the

small ones for the bottom of the wound, the larger ones for the outer part gradually enlarged, which must be dipped in oil of utrpentine; afterwards the dossils must be armed with common turpentine, and a good firm bandage put on to compress them, so as to prevent the flesh from rising above the hoof. As for the future dressings they need not be closely confined; in this case all softening remedies are good, and the whole difficulty of this amputation lies in the cutting, and the management of the dressings.

I have observed that although the operations made upon the fore feet, be never so well performed, especially if the hoof be strong, and however well cured, the horse will sometimes continue lame; which never is the case with the hind feet; this is a fact which perhaps we may in some measure account for.

If what is marked above be not punctually followed, and the cartilage should be taken off piece meal, either by caustics, the actual cautery, or cutting, we risque keeping the horse a long time upon his litter; which retains the matter, spoils the capsula and ligament, and often destroys the animal.

The dissection of the feet of two horses has taught me an exception to this extirpation of the cartilage abovementioned: It happens sometimes by an extraordinary conformation, that the horse has little or no cartilage upon the apophysis of the foot-bone, and that it is a true elongation of the same bone, which by its consistence or hardness very well resembles the form at the coronet of the foot. He that is acquainted with his subject will in this case distinguish the want of the cartilage, in pressing the coronet, by the moveable resistance of the bone; in such circumstances it is to be supposed that the quarter of the hoof must not be cut away, but a simple opening only must be made
on

on the upper part of the apophysis in order to wait the exfoliation of the carious bone. If it happens that this preternatural bone is edged by a thin cartilage, the said part or quarter must no more be taken off than in the case above, for the corroded part will separate by being treated in the above manner, and will come out at the opening made above.

*A MEMOIR presented to the ROYAL
ACADEMY of SCIENCES November 18,
1750.*

*Upon a most speedy and infallible remedy to stop blood
in large divided arteries without a ligature.*

IN order to stop the blood in accidental hæmorrhages of the small vessels, I had a notion to try what effect, the dust of a certain wild mushroom, commonly called in France *Vesse-de-loup**, and botanically *Lycoperdon*, could have upon great divided arteries, in the case of accidents in bleeding, and in performing amputations of limbs; I proposed therefore to make my experiments on horses.

Having chosen proper subjects, I laid the temporal artery bare in one, and divided it transversely half way; the blood started out with great impetuosity; I applied some of this dust of the puff-ball, which I confined to the part, by only the palm of my hand, for about twelve or fifteen minutes; and the blood stopped.

I pricked in the same manner, the artery in a horse's leg; I dressed it with the same dust, and the blood stopped in like manner.

I cut off the fore-leg of another horse at its upper part, near the thorax, and applied the powder

B 2

* In England, puff-balls.

der or dust to the stump, without any other dressing than a bladder to keep it on, and the blood stopped; notwithstanding the struggles of the horse to relieve himself, for he was thrown, in order to make the operation.

I afterwards cut off the tail of the same horse at the place of its first joint; and the blood of the four arteries stopped, like the other cases, by the same treatment.

I caused this horse to be knocked on the head on the fourth day after, and dissected the divided arteries; when I found that a membranous inclosure was formed, which was half transparent and exactly stopped their orifices, the center of each of which had a little grume of blood like a nipple.

It must be observed here that as I examined the stump of this horse while he was yet alive, I saw with great pleasure, the blood force against the said inclosing membrane, which being upon the level with the flesh, made it easy for me to observe very distinctly the extremity of the artery by its pulsation.

Having separated the flesh from the artery, I slit it up longitudinally, and found that the little grume of clear blood was of a firm consistence, of a lively red, in form of a cone or sugar loaf, the basis of which adhered to the little inclosing membrane which shut up the artery without; the point of which floated in the cavity of the vessel; and I further found the coats grown thicker at their extremities.

At length, in order to try whether the suppuration of the wound would not open the orifices of the arteries again, which were just stopped up by the remedy, I let the first horse live, which was the more vigorous of the two, until a perfect suppuration was established, which proved that it did not, in the least respect, hinder the cicatrizing of the arteries.

A New

*A New METHOD of SHOEING both COACH
and SADDLE-HORSES.*

*In order to render them more secure upon their feet at
all times, upon even the smoothest pavements.*

EVERY country has its different method of shoeing horses; but as I do not intend to make a critical examination into either the errors or perfections of their methods, I shall only give a short account of the practice of several countries, that the reader himself may judge how nearly the method of shoeing in our time comes to perfection, or how far from it.

In Prussia they only shoe before and not behind.

In Germany they shoe both before and behind; and commonly put three cramps upon each shoe.

In France they cramp them only behind.

In England the shoes have no cramps either before or behind, and the shoes are thin, broad, and have very strong heels in order to hinder the frog's bearing upon the ground.

In Spain the heels of the shoes are thin, and partly confined down upon the heels of the horse.

In Turkey the horses heels and soles are covered with a plate which serves them instead of shoes, wherein they contrive an opening to let part of the frog come through. All these several kinds are represented in Plate III.

As to the manner of paring the foot, it only differs according to the greater or less quantity of the sole's being taken off.

It must, however, be observed, with respect to the cramps, that our ancestors put them on the fore-feet; though there is no treatise that makes any mention of it; but over the door of the church of St. Severin there is a number of shoes fixed to the wall with two cramps on each, which were cer-

tainly the shoes before the last age. Some of them had been worn and others not, but it is plain they were those in use at that time.

For several years past the method of cramps hath been left off, instead of which strong heels have been brought into use; but the more able farriers perceiving the abuse of such, now keep the heels equal to the rest of the shoe.

Every nation thought themselves right, and believe so still; nor will any of them change the manner of shoeing. The foreigners who are lovers of horses, and who come into this kingdom, are a strong proof of this: for almost all of them bring with them a farrier of their own country; being strongly of opinion that their methods are preferable to ours.

But we are pretty even with them in our opinions of them, for we generally use the same precaution when we travel into their countries.

It must not be supposed that the difference of the ground, causes any manner of difference in the methods of shoeing, which I have sometimes heard mentioned as a cause; for we daily see here horses shod in the English, German, and Spanish manner, and yet go upon our ground neither better nor worse than those shod in the French method; but only that this practice is scarce better in one country than another, and that in all places it is rather a matter of fancy and custom than of consideration and reason.

It appears to me that the custom of shoeing horses was a good one, and even necessary upon a pavement, but it is upon their form and the manner of setting them on, that not only the preservation of the foot, but also the safety of their legs, and the ease of their motions depend.

And in effect, the more easy our shoes set upon us, the more active we are; so a large, long, thick shoe ought to have the same effect upon horses,
that

that wooden shoes have upon us, that is, make them heavy, unweildy, and hobling.

Let us now observe the going, as well as the external and internal structure of a horse's foot.

The horse who draws, presses first upon the toe, then successively upon the sides, to ease the toe; and then the horse's heel yields upon the heel of the shoe, from which it immediately rises again.

The saddle or pack-horse places the toe but lightly; which is the only difference in their going; so that in both cases, the point of support is fixed neither upon the heel nor toe, but between both; which is easy to demonstrate anatomically, figure the first, plate II.

The canon-bone 3. presses upon the pastern 4. this upon the coronary 5. the coronary upon the coffin or foot-bone 6. and upon the nut-bone 3. fig. 2.

By this disposition of the bones, we should observe two essential things, which lay open the faults in the present method of shoeing, and point out the means of being able to remedy them for the future: one is that the effort of the weight of a horse does not bear either upon the toe or the heel, but on the middle between both; the other shews that the greater the distance of the sole from the ground, or from whatsoever point of support, the more the pushing of the coronary-bone upon the nut-bone, will fatigue the nerve or tendon upon which it rests, by the inordinate distension it undergoes at every step the horse takes*.

We find therefore that in our present method, a long shoe is not only perfectly useless, but it is even very prejudicial; in the first place it will be less solid;—secondly, the horse's heels coming to sink upon those of the shoes, the longer the lever,

B 4

the

* See the anatomical plates, which shew the structure of a horse's foot.

the greater will be the drag upon the clinches of the nails at the toe ; and we often see horses, having long shoes, strike them off in walking upon the best ground.

They often also lose their shoes in stiff or tough clay, for they are apt to stick the faster for being so long.

Again when the shoe-heel happens between two pavement stones, the shoe comes off.

The same thing very often happens when they pass into the doors of coach houses, which have commonly bars of iron along the threshold.

An old colonel of horse told me that horses very frequently lose their shoes in passing over the draw-bridges of fortified towns, because they are strengthened with cross parallel iron-bars. He seemed convinced of the convenience of the new method of shoeing I propose.

Horses frequently too knock off their shoes by hitting the toe of the hind-foot upon the heel of the fore-shoe when they trot, especially when they are too apt to over-reach ; and also lose them by happening to put one foot upon another, while in the stable, from the length of the shoe.

The longer a shoe is, and the more it covers the sole, the more liable the horse will be to fall, trip, and hobble in his walk ; particularly if he goes upon a pavement, because the surface being formed of round parts, and the shoe having a large uniform hard face, he can scarce have above two or three points of support.

The English who practise this kind of shoeing take care therefore not to bring their horses upon a flat pavement without an absolute necessity. The length of the shoe causes yet another ill accident to some horses, which they feel all their lives ; and it is to those especially that lie down as a cow usually does ; for in this posture the fore-legs are so bent under them backward, as that the heels of the

the shoes wound their elbows, and cause a kind of abscess in the part.

It is thought that strong shoe-heels are an ease to the weak heels and fetlocks of horses, as if the body of the shoe was flexible enough to yield to the horse's heel, and under this notion, they raise the shoe-heel, and leave a vacant space between that and the horse's heel.

Nevertheless the direct contrary happens.

1. It is the hoof that by its flexibility yields to the shoe-heel, which is quite inflexible.

2. The thicker the shoe-heel is, the more subject that of the horse is to meet it.

3. Instead of being eased, the horse's heel becomes more compressed, because it has always the same point of support.

Let us but remember what I have said above concerning the horny sole; that it is from the fleshy sole it receives its nourishment; that its connection and juicy parts consist in its thickness; and that it hardens, and receives less nourishment in proportion as it is thinned. We even see horses grow lame by the habit of paring the sole.

The air, when it is in this thin state, penetrates and dries it to such a degree, that if when a horse stands dry, they neglect moistening his feet, they contract, and compress the fleshy sole, so as to lame the animal.

But let us go on: what dangers does not a horse run, when his sole is almost gone by being pared too close? if he should happen to tread upon stumps, pieces of bottles, or nails, they will easily penetrate to the fleshy sole, lame the horse for a considerable time, and sometimes for his life.

Suppose a horse loses a shoe, which often happens, when his foot's but newly pared; he cannot go an hundred paces before he grows lame; because, as in this state the sole is hollowed away, the horse is sustained only upon the walls of the

hoof, which having no assistance of support from the horny sole, is immediately worn and battered by the weight of the horse's body; and the sooner he treads upon any hard substance, the sooner he grows quite lame.

But this cannot happen to a horse, whose sole is left intire in its full strength; for when the shoe happens to fall off, the sole and frog bear upon the ground, ease the walls of the hoof of part of the weight of the body, and the horse thus unshod, will pursue his journey, and come in safe and sound.

It is most certain that all horses, except such as have their feet overgrown, or such as may have a particular occasion of being shod to preserve the sole, may at any rate, go without shoes; and we have examples among ourselves, (without mentioning the customs of Arabia, or Tartary) of horses who are at daily work in the country, without the least need of being ever shod. But as we employ all our care and address to hollow the foot by paring it even to the quick; and to form an exact fine frog, in short such an one as, we say in France, is neatly put out of hand, it is absolutely necessary to set shoes on them.

I therefore warn all lovers of horsemanship to secure their horses, as much as may be, from the perfection of such work. Perhaps it may be asked what becomes of the horny sole if it be not pared? they may be afraid of its becoming too large by its growing; not at all, for in proportion as it grows, it dries, scales, and falls off in flakes.

Again, if the horny sole be left entire, there would be no fear of those inflammations, arising from the dangerous compressions mentioned in this treatise. For by its connection, thickness, and flexibility, as well as its contexture, it would seem to be wholly destined, by nature, to serve as a cushion to the fleshy sole and tendon which rest
upon

upon it; in order to break the violent shocks of a pavement, stone, or any kind of stump, &c.

There is a fact which we must also be convinced of, and that is, that a horse very seldom goes easy, or escapes being soon jaded, if the frog does not bear upon the ground; and as it is the only point of support to the tendon; if you keep it at any distance from the ground by paring it away, an inordinate distension will happen to the tendon, caused by the pressure of the coronary bone upon the nut-bone (as we have said already) which distension being repeated at every step he goes, tires it, and causes an inflammation, whence proceed relaxation, defluxions and tendinous swellings, especially after long journies or hard riding. These accidents proceed less from the length of the journey which is the common notion, than from the bad custom of paring the sole.

The common methods of shoeing have another general inconvenience upon journies; which is that sand and gravel get in, and are ground between the sole and shoe, and again, between the horse's heels and those of the shoe; and not coming out again readily, they cause compressions, inflammations, and at length a collection of matter which putrifies and ruins the cartilage, forming in this latter case, callous horny excrescences, and in the former bruises and compressions of the sole.

These last accidents are also very often the effects of a stone's being wedg'd in between the shoe heels; and although this is soon perceived because the horse suddenly goes lame, yet in endeavouring to knock it out, you run the chance of either hurting and laming the horse, or striking off the shoe.

Let this circumstance be well attended to, that the more a horse's foot is pared, the more he is exposed to the danger of meeting such accidents:

It

It is in the first place, depriving him of the defence provided by nature against hard sharp bodies, which he may chance to tread upon; and in the second place of a more important advantage both for his own, as well as his rider's sake, which is, that in not paring away the sole, nor setting on any more shoe than is necessary to preserve the horny sole, he will no more be subject to slip, neither upon the winter's icy pavement, nor upon the dry smooth one of the summer season, which I shall now proceed to demonstrate.

1. In making a horse walk upon the frog and partly upon the heel, the former being strongly rubbed and pushed against the ground or pavement, as it were, impresses itself, by the weight of the horse's body into the inequalities and interstices, it happens to meet in its way.

2. By its flexibility it easily receives the impressions of such inequalities, so as that the foot resting upon a great many more parts which mutually ease it, by multiplying the points of support, gives the animal a stronger adherence and more security upon the plane he goes upon. It may even be asserted, that the frog acquires a kind of sensation, by its correspondence with the fleshy sole, and of this with the nerve; which though I will not compare it with what we feel in going barefoot; yet this sensation is fully sufficient to give him proper warning of the counterpoise he ought to put his body into, for maintaining his equilibrium to keep himself from stumbling and falling.

The end and design of shoeing horses could not have been aimed at upon any other account, by whosoever first put it in practice, but as a preservative and defence for the hoof as well as the sole; but he could not think at the same time that it was necessary to pare away what he wanted to preserve by the use of the shoes, I will not even say to that excess that we use in paring them, but not at all; because

because that would be to act contrary to his first principle, and destroy his own work.

This precaution could never be recommended but in cases where the horny sole is uneven, inso-much that the shoe could not bear equally upon it; which would take off from its necessary firmness; in such a case it may be reasonable, otherwise it would be very absurd.

I have often spoke to such lovers of horsemanship as take great care to have their horses feet well pared; but none of them could give me any demonstration either of the necessity or propriety of it. But at length convinced by my reasons against it, I never could have any satisfaction from them, but that it was an established custom, and that it must be allowed to be by far the most gentle method.

I will offer but one word more upon this pernicious practice, which is, that the greater part of the farriers, in order to pare their horses the neater, push the buttress even to the very blood, and then in order to stop it, have recourse to a red hot iron.

When this operation is finished he returns lame to the stable: the owner asks the reason of it, but cannot be informed, because both farrier and groom are either equally ignorant, or rather equally discreet upon this article.

I will venture to say as a fact, that if a horse loses shoes ten times a day, a farrier will as often pare his foot, so excessively obstinate is the custom, and so positively thought necessary by the generality of the farriers.

I do not take upon me to inveigh against able and skilful farriers, I have respect for these, and do them all the justice imaginable; I only strike at that ignorance alone, which has reduced a method of shoeing, which is in itself simple, easy and useful, in its principle; to a work which is pernicious

nicious in its use, and meerly a mark of dexterity and neatness in its execution.

From what has hitherto been said, it is plain that our kind of shoeing, and the manner of our application of it, far from being serviceable to horses, ruins, fatigues, and renders them unweildy and hobbling; exposes them to street nails, makes them take up their limbs aukwardly, subjects them to compressions of the sole, callous excrescences, tender-footedness, and obstructions and swellings of the tendon. But by a new manner of shoeing, which will make them more alert and agreeable in their going, we shall be able to prevent the crowd of accidents mentioned; and it is from its simplicity, and the great ease of performing it, that all its advantages arise.

I cannot but wonder others have never thought of it before, and, I have, indeed, some difficulty to persuade myself, that I am the inventor; and I am more ready to believe, that it is no more than copying that which was practised by the first artist, who thought of setting shoes on horses.

If I am right in my suspicion, its having been forgotten, proves nothing against its perfection; because neither a good nor bad method has any more right the one than the other, to fix our inclination from varying. We grow weary of every thing; and one, in order to improve upon the other, has invented shoes of different forms, lengths, and thickneses, to which he has been sure to attribute many useful properties. The world, more credulous than well instructed, are easily convinced, and from hence sprung the use of some long shoes, others thick, others with cramps, at length others with thick strong heels, and in fine, others with thin ones. It is not unlikely that if the poor animals themselves were able to give their opinions, nothing of all this would be put in execution; they would be kept to their
antient

antient method of being shod, which being invented to preserve the hoof, had certainly none of the inconveniencies that attend our present method.

In order to give a striking example of this, we need only to observe a draught-horse, when he draws a loaded cart, at a time when the pavement happens to become slippery; we shall see the pain and torment the poor animal suffers, his feet having no purchase, he attempts in vain to claw the pavement; every step is a slip, for which he is often whipt without deserving it; the back, breast, shoulders, legs, and all are strained, all upon the rack; to which may be added, the perpetual fear of the whip, at every false step he makes upon a pavement, which it is impossible to draw a load upon; under these circumstances the horse suffers more in one league, than if he had drawn ten leagues upon the road; the foundering, inflamed lungs, fevers, and every other accident of a strained horse are the consequences, which are often attributed to other causes: but what is still more dreadful, that the very worst jades do not suffer so much as the best horses, who put all their strength forward, and yet are not the more spared for their willingness.

I should not omit mentioning here, that one of the principal reasons that determined me to seek a means of reforming the old manner of shoeing, was the difficulty that horses have to keep their feet upon the pavement of Paris in a very dry season; the more elegant the pavement of this capital is, which is wonderfully kept in repair, and the more advantageous to the citizens, the more prejudicial it is to the horses. And the oftner the pavement is swept the more easily it grows slippery, and the more these animals are exposed to danger. But above all we must without controul yield to what is convenient to men, and accommodate the
arts

arts to them, which made me think of this new method, I proceed to propose.

The MANNER of SHOEING.

THE sole nor frog must never be pared, for the reasons given before; we ought to be content with only taking down the edge of the hoof, as usual, if it be thought too long: and then to set on a shoe in form of a half-moon *; thinning the heels, and making them a little longer for such horses as have weak hoofs; for when the feet are good they must only reach the middle of the hoof.

Eight small nails made in the old way, that is, having very small heads, are incrusted in the holes which are made, as the head is in an oblong form; the figures both of the shoe and nail are to be seen in plate III.

This is the whole of the mystery; I own this method does not seem to be in taste; it is even a general reproach which they who make the trial for the first time offer me. But the greater part of those who have tried this way, continue it, they find it so advantageous.

As to the rest, if the reader does not find my reasons sufficient to convince him of the imperfection of the common method of shoeing, and of the advantage of the new way, I refer him to making the experiment; assuring him he is very much mistaken, if he takes all I have said for a simple project, which would have no other merit than to have been formed from a meer rational theory. I assert to him that my notions have more solidity, and that in praising my new method of shoeing, I declare nothing but a fact a long time ago put in execution, and confirmed in practice.

The

* See the plate of the shoes.

Turkish



Spanish



English



The half Moon Shoe



Spanish Shoe for rough Pavem.^r



German



French



The Nail



The marquis L. O*** colonel of horse, and a lover of horses, to whom I mentioned this new way of shoeing in October 1753, knowing the structure of a horse's foot, told me he thought it an useful and good way, and that he had a mind to have his horses shod so; in short he had it done, and tried it upon smooth pavements as well as upon ice; and although the roads were almost impassable this year 1754, his horses never stumbled; and he recommended it to me to go on with the same method.

I have shod in this manner for a great number of houses in Paris; the first essay was made upon my own horse, who draws my carriage to this day; he used to slip frightfully in going, though he was shod with cramps all round. But as soon as I had shod him in my new way, he became as sure footed, as if he always walked upon good ground. I even proved in the last frost, of last winter, that the same horse, being shod in this manner, and only two frost nails at the toe, went firm and sure even upon the ice.

1. I have observed before that all kinds of shoeing went well upon every sort of ground; it is necessary however, to mention a word or two more about it.

In the German shoeing, the fashion is to have two cramps to each shoe; and is only fit for going upon the ice; upon all other grounds it is hurtful to the legs, which are raised up, as if upon stilts.

2. The Spanish method hurts the horse's heels by the length of the shoe they set on, and with which they confine the heels upon the two quarters of the horse's heel, which joins the coronet, in such a manner that the foot becomes tormented and pressed so as not to be capable of spreading, which makes almost all the Spanish horses grow narrow heeled.

3. The

3. The English manner of shoeing is to keep the shoe-heels large and high in order to save the frog ; by this means they deprive them of the liberty of going with ease upon a pavement ; because the shoe does not bear upon the level, and produces an effect like that of a pivot, upon the middle of the shoe-heels and the vault or hollow.

4. The Turkish horses have also a great deal to do to keep themselves safe upon a pavement, because the shoe covers all the foot.

5. The French method of shoeing has the fault I observed before, of making their shoes too long ; of paring the feet and setting on one cramp on each shoe behind, which makes them go sideling : it would be better that they had two cramps to each shoe, but they make but one for fear the horse should go lame ; I allow that cramps are useful, especially in descents, and in backing, but this cramp in a few days is worn, it slips upon a pavement, and has no effect but just when it is new ; again, does not the pavement also wear, while the stones grow convex in the middle, and make it slip from one to another, having no hold nor purchase between both ?

It is therefore very essential to leave off the cramps and to shoe the horse in such a manner that the frog may bear upon the ground, in order to enable him to stop short, and make him more sure-footed than with cramps : the frog will serve horses to go upon the smooth pavement, as felts enable men to go upon the ice.

It must be owned that the French method of shoeing is the best and most solid of all for flat-feet.

As to those horses who have tumors within the feet, and fissures without, or weak quarters, they must be shod in the semilunar manner ; that is, so as that the outer-heel of the shoe may be something longer, the inner very short, in order to prevent the

the weights bearing upon the affected or painful part; there are several expedients which produce the same effect; we may even think of many others, for it is the business of the artist; but to this time I know of none better, more ready, nor more certain, than the half moon shoe.

I wish for the benefit of society that my attestation and experience were convincing enough to cause a reformation in a pernicious practice, which is subject to such great inconveniencies; it would be the most agreeable recompence I could desire.

This is what I had to say upon this new method of shoeing; there are already some of my fraternity who practise it; and many gentlemen of knowledge approve of it, and all I have done myself in it for six months, confirms to me more and more that it is a good method; yet I every day bear many contradictions from all ranks of people; some condemn it from prejudice, others thro' ignorance, and others thro' malice. Some farriers, and several coachmen and grooms are against this method; I therefore think it my duty, to answer in a few words, all the objections which have come to my knowledge about it.

OBJECTION I.

They say that this kind of shoeing will cause strains, bruises, and other ailments in the heel.

ANSWER. I have already demonstrated that the shoe-heels never yield as was thought; that the weight of the horse forces the hoof to come upon the shoe-heel; by which the horse's heel is bruised, as if in a press; and consequently having the shoe-heels short, he will be less subject to these disorders by this short-shoeing, because the horse's heel will but lightly touch the pavements, bearing the weight of the body intirely upon the middle of the foot, and upon the frog.

OBJECTION II.

Some pretend the horse's-heel wears away.

ANSWER.

ANSWER. To prove without reply, that this is false, that the heel can never be worn to the quick, and that its substance is of such a nature as to grow more than it wears; it is that we are obliged to take it down every time we set on a shoe: but it is only in such horses as have the heels strong.

OBJECTION III.

It is said that I never open the heel, and that that is the cause of disorders.

ANSWER. There are three sorts of disorders: the first comes from a strain, to which I have answered: the second from not opening the heel well; but when ever I see them disposed that way, I pare them, leaving the frog in its full strength; and the third sort proceeds from the natural structure of the foot; and in this case whether the foot be pared or not, they will equally come on.

OBJECTION IV.

They say that the frog ought to be fatigued, because the horse goes upon it.

ANSWER. I could rigorously appeal for this to experience: no horse, shod in this new method, has to this day shewed the least sign of the fatigue of the frog, or of its sensibility; and I even do not believe that any one can say he ever saw horses lamed, having old shoes on, for having travelled upon the frog; and it will be seen that it is scarce possible, when we reflect upon the whole particular structure of this part as I have given it in this work. It is a soft, spongy, flexible substance, which by its natural elasticity yields to the weight of the body the instant the horse presses his foot against the pavement, and immediately recovers again.

There is, however, a case wherein a horse may become lame, by going upon the frog; but which never was objected to me; which is when it is hard and dry. The observation and anatomy of the foot have shewed me that it may cause lameness,

ness, because the horse in bearing upon the ground forces this hard part against the expansion of the tendon which is attached to the foot-bone, and the horse may become lame from the great sensibility of this part: but if I take off the little end of the frog with the buttress, he will not be lame.

OBJECTION V.

It is said the frog will be more subject to have spongy excrescences.

ANSWER. That happens only to such horses as are full of humours; and if there appears any disposition towards it, the frog may be pared, and the horse will go upon his heels, if they be strong, as safely, upon a smooth pavement.

OBJECTION VI.

They say the nerve is wearied, that is, that the Tendo Achillis is stretched or dragged; and suffers by this short shoeing, because the frog bears upon the ground.

ANSWER. It is just the very contrary.

Let us observe the effects of the weight of the body upon the Tendo Achillis in the following circumstances.

If a horse be shod with cramps, then there is a great distance between the frog and the pavement: the weight of the body bears upon the cramps; the frog which is now free in the air yields downwards, the tendon is stretched, and if the horse makes a sudden violent motion, the rupture of the tendon is almost inevitable: because the frog cannot reach the ground to ease the tendon, to which it ought to be the point of support; if the tendon is not ruptured, yet the horse will be lame a long time after, because of the great distension of the fibres which were so much upon the stretch as to be near breaking.

If we set on shoes with only strong heels, the frog is not so high from the ground; the weight of the body may indeed force the frog to touch the middle

middle of a paved stone, and thereby prevent the great distension of the tendon; but as the thickness of these heels hinders the substance of the frog to bear upon the ground, to yield and restore itself as much as it is capable of by its natural elasticity, the tendon must snap, by any violent and sudden spring, every other circumstance being equal.

But if a horse is shod without shoe-heels, the frog which bears all the horse's weight gives way at every step, and by its elasticity is restored to its natural state; the tendon is never dragged or strained; its fibres will not be susceptible of any violent distension, in case of any sudden violent motion.

I dare affirm before hand that a rupture of the tendon will never happen upon the middle of a paved stone; and if ever it should, it could only be ruptured in the interstice between two of these paved stones. From what I have said, two things plainly appear: that all the different degrees of violence that one can imagine from its total rupture, to the most slight distraction of its fibres that can lame a horse, may happen to the tendon; and that it is upon the frog alone that all these degrees depend, as it is more particularly laid down in the history of the fracture of the coronary-bone, and in the anatomy of a horse's foot.

OBJECTION VII.

It is said, the horse will be more subject to be injured by street nails, and to other accidents which proceed from pricking the fleshy sole.

ANSWER. As in this method the foot is not pared, the horny sole will always have its full natural strength; and consequently will be less liable to be penetrated, than when it is made extremely thin.

OBJECTION VIII.

They say that the horse is not shod to be easy, that he goes in pain, and must be lame.

ANSWER. If the horse goes uneasy, or is lamed,
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it cannot happen from the shoeing, however short the shoe may be; if it be not from the different accidents that often proceed from the common methods of shoeing, and which may as well happen in the new way: which are 1. The foot being too much straitened; 2. Accidental pricks: 3. The shoe nails may bind the enchannelled flesh too much. 4. The shoe may bear too much upon the sole. 5. When the shoe heels press upon the weak heels of the horse. 6. When the sole is burnt. 7. Wounds of the fleshy sole made by the buttress.

In my way of shoeing I avoid four of these accidents. 1. The heel is never strained, because I put no part of the shoe upon it: 2. I preserve the sole intire, to which I never use the buttress. 3. The fleshy sole can never be burnt, nor wounded by the buttress, since it is never touched with it. Let the three other accidents abovementioned be taken care of, and I defy them to lame a horse that has a good foot, let the shoe be never so short.

OBJECTION IX.

It is said that the horse is liable to lose his shoes, because they are set on with only small nails.

ANSWER. It is most certain that a short shoe with small nails, will hold on better than a long shoe with large nails; that it has less weight; that the lever is shorter, which has yet less weight of the shoe, and by consequence it strains the clinches the less; and does not divide the hoof like a large nail. Moreover I refer to the experiment. As to those who are no friends to the new method of shoeing, let them only clinch the nails in a careless manner, and the horse will cast his shoes, as they please.

OBJECTION X.

It is said that the horses that are not shod with cramps are most subject to slip.

ANSWER. I can affirm that the more dry and more smooth the pavement, and the more the frog
or

or horses heel bears upon the ground, the horse will be the more secure; and he will slip much less than if he had cramps; even tho' he goes down very steep places, or backs strongly. What is most certain is, that the less shoe a horse wears the less he slips, because if it were possible he could do without any, he would not at all be liable to slipping.

I do not, however, engage that the shoeing I propose, would have the same effect upon a moist or greasy pavement, or that the horses will hold on them so securely, especially on the hind feet; I think indeed that large nails would in such places be of use; which might also happen upon a slippery soil.

I have observed that the common shoe wears away almost half more than that I propose; if for example, I set on a shoe of two pounds weight, it will be half worn off by its service, upon a pavement; and the same horse going the same ground, and in the same space of time, if he is shod with the half-moon shoe, it will not be diminished above a third part: the shoes may be weighed before they are set on, and afterwards, by which the truth of what I advance may be judged of, and we shall be convinced by that, that a horse shod according to my method, goes more lightly.

My new manner, which I repeat again, has nothing but prejudice against it; anatomy which has taught me the structure of the foot, laid open to me all its advantages, and experience has confirmed them.

I shall conclude with the following Reflections, *viz.* That of bleeding horses in the month of May, even though they are in perfect health; I cannot see upon what this custom is founded, especially as they are well; indeed I have seen many become ill by it: And, That upon horses said to be cold in the shoulders, or seized in the shoulders.

I think it is in the joints of the foot, and not in the shoulders, the causes of laming horses ought to be looked for.

What leaves no manner of room to doubt that the origin of this disease is not solely in the articulations, is, that after having dissected horses whom they thought cold

cold in the shoulders, I found that the synovia of the joints in the foot was diminished and changed. I believe that when a horse is very hot, the sweat which falls from the shoulders and neck upon the legs, in proportion as it descends from the trunk, grows cold upon the lower extremities, which moreover cannot be so warm as the muscles.

It is to this distance, to this organisation, and to the cooling of the sweat upon these parts we may attribute the diminution and alteration of the synovia which first causes the foot to chop or crack and then lames the horse.

This evil may be prevented by walking the horse gently after hard riding, that he may be gradually cooled and dried, he is then to have his legs well rubbed with straw, to be covered and kept warm for an hour, and should it be requisite to wash him, he must not be suffered to drink, but led about some time before he is put up. The custom of rubbing the legs with straw is salutary, being intended to refresh the parts, and so is that of keeping them warm, in as much as it prevents foundering, glanders, and other accidents.

The subject would be inexhaustible if I should enlarge upon all those that are the object of this book; but I leave it to those of my fraternity who are more learned and skilful than myself to publish what I may have forgot: and hope that the little light I have thrown upon our art, which is yet in too much obscurity, will engage them to bring it to perfection; and for my part, I declare I shall be sincerely obliged not only to those of my profession, but also to all lovers of horsemanship, if they will be so kind as to shew me my errors, as well as communicate their own reflections and discoveries.

It appears to me that the generality of English farriers have neither more knowledge nor experience than we have in the subject, and particularly in that of the circulation of the blood; nor indeed in a vast number of diseases, for which they generally apply the same remedies without distinction, and without endeavouring to be certainly acquainted with the true cause.

Here is the manner in which Mr. Bartlet, * a surgeon of London, explains himself upon the matter ; who has published a book this year, which I have caused to be translated, entitled : *The Gentleman's Farriery, or a practical Treatise on the Diseases of Horses* : wherein he has pointed out the best authors who have wrote upon the subject.

He says, in the 4th chap. which treats of fevers, that he cannot recover from his amazement, that farriers are so ignorant in the knowledge of the pulse ; the following are his words : “ A due attention to the pulse is so important an article, in order to form a proper judgment in fevers, that it would appear amazing it has been so much neglected, if one did not recollect that the generality of farriers are so egregiously ignorant that they have no manner of conception of the blood's circulation, nor in general have they ability enough to distinguish the difference between an artery and a vein. With such pretty guardians do we intrust the health of the most valuable of animals !”

I forbear to mention certain discoveries, cures, and operations, of which Mr. Bartlet gives an account, altho' they appear to me extremely rational, as they are founded upon the knowledge of anatomy, until I shall be able to mention them with more certainty, particularly his method of docking, and the machine he has contrived for that operation. This diffidence proceeds from a maxim I have always conducted myself by, of never offering any thing to the public, without first being satisfied of it's effects from repeated experiments.

* I must not omit this opportunity to express my regard for Mr. *William Gibson*, who has treated the subject of Farriery, both in theory and practice, equal to what might have been expected from his long experience ; and his anatomical plates are executed with an exactness peculiar to himself.

Some necessary PRECAUTIONS to be observed to prevent the GLANDERS.—For the cure of this Disorder, our Readers are referred to Mr. BARTLET's *Treatise of Farriery*. (Published by C. WYNNE and J. EX-SHAW.)

IT is known that a horse with the glanders, properly so called, can communicate the disease to other horses; but this disease will also be caught from any cause capable of inflaming the pituitary membrane. For example, a horse will often become glandered, if after swimming him he is left in the cold, or his nose exposed to the wind; for in two hours the glands under the jaws will be swelled, and the nostrils be filled with a viscid mucus.

I have had horses brought to me who had caught cold thus in the pituitary membrane, and could perceive by their glands they were threatened with a confirmed glanders; I bled and cooled them, and they recovered in a very little time.

And I have since observed horses thus affected in the glands from the same cause; for which I proposed the same treatment by way of prevention, became absolutely glandered for want of that care.

In order to prevent these diseases, when horses are hot, they must not be let to grow cool without action, and therefore they should be walked gently after running, to hinder their taking cold. If they cannot be walked about, their noses must be covered to hinder the first sudden ingress of the cold air; their tails should also be turned towards the wind, to prevent its affecting the pituitary membrane, and also care should be taken that the delicate texture of this membrane, so exposed to the immediate contact of the air and wind, may not have too sudden a change from heat to cold.

But if a horse has been affected in the glands for a considerable time, and has had a discharge from the obstructed side without coughing, the glanders is confirmed even tho' he has a good appetite, and every other sign of health. Emollient decoctions must be thrown up the nostrils, being careful to push them to

the frontal sinuses, and to repeat them three times a day for a week; if the running continues, it will be very proper to use fumigations, which would come more into practice, if their good effects were better known.

To fumigate is to make a horse receive the vapour or smoke, thro' a Funnel, of certain medicines thrown into the fire or upon a red-hot iron.

Another kind proceeds from the horse's being overheated; he coughs, and first discharges a limpid fluid, and after, a whitish matter; the cold air having laid hold on the pituitary membrane, condenses the lymph in the small vessels, which causes an inflammation, and swells the throat, larynx and lymphatic glands.

The horse sometimes as he coughs discharges matter from his mouth, but should the cough cease, and the discharge continue for fifteen or twenty days, and that the gland under the jaw hardens rather than diminishes; this running is suspicious and sometimes degenerates into a true glanders; therefore to avoid these evils, as soon as a horse is found to be overheated, let him be blooded, kept warm, drink white water, and not worked too much; If he continues ill he must be fumigated or injected, as we have mentioned before.

The strangles is a disorder of this kind, which every horse ought to have for his health's sake. It's a humour which circulates in the mass of blood to a certain age, which nature endeavours to throw off. I am not of the opinion of those who separate horses with the strangles from such as have not yet had it; on the contrary, I turn them together in order to make them catch it of one another, to avoid the danger they would risque in not throwing it off in the fine season of the year.

Mr.

Mr. BARTLET's ACCOUNT

O F

M. LA FOSSE's Observations on Horses.

CHAP. I.

Of particular Disorders of the FEET.

The cause of this chapter.

THE following observations and discoveries from M. *La Fosse*, are so important in their nature, and of such consequence to the public, we have thought proper to publish them for the benefit of those, who are not acquainted with that gentleman's valuable performance.

The ignorance of farriers.

And hence it will demonstrably appear, how lamentably ignorant farriers have hitherto been, of the disorders attending the feet of horses; particularly of those fractures, to which the coronary, and nut-bones are liable; as well as of the tendo Achillis, which this bone sustains; also, of the different degrees of violence, to which this tendon is subject, from the most slight distraction, or straining of its fibres, to its total rupture.

The utility of these discoveries.

Though the discovery of these disorders, does not lead us to the manner of curing them all, because some are in their nature absolutely incurable,

as the fractures of the coronary, and nut-bone ; yet it is of very great use, by undeceiving us in a point, that was always hitherto thought curable, from the ignorance of former practitioners ; and consequently the owners of such horses, will no longer be imposed on, and for the future will save the expences of a cure, that must be attempted in vain : for we may be convinced by the examination of the plates, that if it was even possible to keep the bones together, so as to favour their uniting, the fracture being in a joint, there would remain a stiffness, or callus, which would render the horse unfit for service.

The plates must be studied.

In order to be thoroughly acquainted with these disorders of the feet, the anatomical plates of the dissected parts must be attended to ; which indeed are so well designed, that the nature and seat of each, may be sufficiently known, to make a true prognostic of their different kinds, without having studied anatomy ; the mechanisms and functions of the parts, being made obvious to common capacities.

Common errors exposed.

From hence it will be discovered, that the lameness in horses, which commonly is looked for in the shoulders, hips, or haunches, is in the foot.

First, Proceeding either from the compression of the fleshy sole, by the coronary bones pushing against it ; which lameness often becomes incurable, by the coalescing of these bones, for want of applying remedies in due time.

Secondly, The great tendon, call'd tendo Achillis, is frequently ruptured, very often overstrained.

Thirdly, The coronary bones are sometimes fractured into three pieces, or more.

Fourthly,

Fourthly, The nut-bone into two, sometimes three parts, but always fractured with the coronary bone.

Fifthly, The foot bone is fractured in two.

Sixthly, From bad shoeing, many and various lamenesses ensue.

The cases explained.

These disorders M. *La Fosse* has clearly described, and after many tedious and fruitless endeavours to cure these complaints, by variety of dissections, he has found the tendo Achillis sometimes ruptured near the insertion, and the coronary bone broke into three pieces, without any dislocation; perhaps the reason of this, may be drawn from the consideration of the manner, in which the coronary bone is joined to the pastern, and foot-bones by their strong ligaments; which being three in number, each seems to have retained its part of the bone, and favoured its division into three parts.

Caused by very slight efforts.

'Tis remarkable, that these accidents sometimes ensue very slight efforts; the sudden spring of a horse, at setting off, or the least false step, being sufficient for that purpose.

How these lamenesses become incurable.

A lameness frequently ensues a compression of the coronary bone; for that being in motion, it raises and pushes the nut-bone against the tendon, which puts the fleshy sole in a state of compression, as if between an anvil and a hammer; If the inflammation brought on by these means is not dissipated soon, by proper applications, or drawing the sole, the case becomes incurable.

Drawing the sole recommended.

Thus we see, that an effort, or strain, which might not be violent enough to fracture the coronary, or nut-bones, nor even rupture the tendon, may produce an inflammation of the fleshy sole,

and be communicated to the ligaments, tendons, and capsulæ of the joints. As the consequence of such inflammation is generally an anchylosis, or stiff joint, so the drawing the sole, according to M. *La Fosse's* repeated experience, prevents such stiffness, and ossifications, as it relieves the fleshy sole from pressure; for the sole is regarded as an expansion of the muscles, and tendons of the foot; and as this operation enlarges the space in the hoof, the fleshy sole being no longer pressed, its inflammation ceases, and the foot recovers its natural state.

The manner of dressing.

When the sole is drawn, the foot should be suffered to bleed, in order to empty the blood vessels, and lymphaticks: let it be dressed with

Why the
hoofs of
horses
should be
kept moist.

the turpentine digestive; but do not bind it up too strait, and let the hoof be dressed with emollients, to moisten extend, and soften the parts; for the hoof of a horse may be compared to a sponge, when it is dry, it contracts itself, even to the inner parts; if it be moistened, it softens, and dilates; if he stands long in a stable, without taking care to keep the hoofs moist, he often goes lame; because the hoofs are susceptible of contraction, as well as dilatation.

The compressions accounted for anatomically.

The compression in the hoof, happens by the coronary pushing against the nut-bone, upon which it partly moves, as we have observed before; which having the action of a lever, takes for its point of support, the upper and fore part of the foot bone compressed, the nut-bone, which it raises, and which pushes against the tendo Achillis, which tendon presses the fleshy sole against the horny one; and all these combined compressions produce

produce an inflammation upon the fleshy sole, which spreads all over the other parts.

From the different attitude of the foot.

'Tis extremely probable, that the different attitudes of a horse's foot overcharged at the same time with the weight of his body, causes the different fractures of the coronary and nut-bones; for when the foot has not a direct position, the joints are twisted, as when a horse treads upon the point, or toe of the hoof; the upper and inner part of the coronary bone, which is in an oblique position, pressed in that state by the burthen of his own body, is forced to yield on one side, and rise on the other; its lower and back parts, which now rise, drive the nut-bone against the tendo Achillis, which sustains it; the tendon in its turn, presses against the fleshy sole, which is also compressed against the horny sole, which is its point of support: The tendon, coronary, and nut-bones become fractured upwards, and backwards, by the pastern, which also had an oblique position, and downward and forward, by the foot or coffin-joint, which here acts as a wedge: let us now see how these disorders are to be discovered.

How compressions are discovered.

Strong compressions are distinguished, by pushing the thumb upon the coronet, which makes a horse feel as sharp a pain, as if there was a fracture; when the compression is not so violent, as that it cannot be thus known by the coronet, it must be examined in the foot; the horny sole must be pared till it becomes flexible under the tool, which must be done as near the frog as can be; the tool must be pressed, and if the horse is sensible of it in that place, we may be assured that there is a compression of the coronary bone upon the nut-bone.

Observation.

The length of time the compression has continued,

tinued, may be known by the adhesion of the horny to the fleshy sole, for the horse bleeds but little after drawing it, because of the interception of the fluids by the compression.

How fractures are discovered.

Fractures of the coronary bones are distinguished in raising the foot by the lower part, where a small tumour is observed ; the foot must be drawn forward, and pressed upon the coronet with the thumb, and if there is a fracture, a rattling will be perceived ; when the tendon is not ruptured, it sustains the bones, and as it is their point of support, the noise is less sensible, but it is best distinguished when the tendon is divided.

The method of cure.

The method of curing the compression, is to pare the sole to the quick, to let him bleed at the point of the foot ; then dress it up with oil of turpentine, and apply an emollient poultice all over the foot ; and round the coronet, afterwards foment with the discutient fomentation : above three fourths of these cases, according to M. *La Fosse*, are cured without drawing the sole, but the most certain remedy is to draw it immediately ; by this method he has cured horses in fifteen days, that were not able to put their feet to the ground.

The rupture of the tendon how cured.

The rupture of the tendo Achillis, is cured by compress and bandage, dipt in vinegar, or verjuice, only keeping the extremities of the tendon in close contact : this is greatly favoured by binding the fetlock, and keeping it in that position, by a splint externally applied, so that the foot cannot bend outwards.

Reflections on the whole.

From these observations, it may be concluded, as also from the nature of tendinous and membranous fibres, the tension and elasticity of which
is

is very great in the foot ; that they are susceptible of all the unhappy consequences of compression.

Fractures of the small bones of the foot incurable.

That it is to no purpose, to keep horses who have any fractures, except in the foot-bone which is capable of uniting ; because it has so little motion, and is so firmly secured. There can be no hopes of curing the fractures of the nut, and coronary bones, as we do the ruptured tendo Achillis, for all their articulations are in continual motion ; and if by chance they should unite, the horse would still be inevitably lame, by the callus formed in the joint.

Compressions of bad consequence without proper care.

That in cases of all strong compressions upon the fleshy sole, against the horny sole, which is an expansion of the muscles, and tendons of the foot ; the inflammation will ossify the joints of the foot, by the stagnation of the fluids ; unless care be taken in time to disperse it by medicines, or drawing the sole.

C H A P. II.

Reflections on shoeing HORSES.

The horse worthy the study of men of letters.

IT is no small pleasure to observe, that so useful an animal as the horse, is not thought unworthy the study, and even manual assistance of men of reading, anatomical knowledge, and a capacity to form their practice, upon judicious and well conducted experiments : The observations in the former chapter sufficiently confirm our assertion, nor will the subsequent ones in this, give the curious reader a less favourable opinion of M. La Fosse's abilities, who seems to be a perfect master of his subject ; as the points he treats on, are set in a new light, and are very material to the preservation of the animal he patronizes.

Shoeing

Shoeing horses an important affair.

Indeed the affair of shoeing horses, is so important in its consequences, both for the preservation of the foot, the safety of the legs, and the ease of their motion; that we cannot be too attentive to any innovations that may be recommended to us in this respect, we shall therefore give that gentleman's sentiments on this subject, with such animadversions as have occur'd to us.

In order to understand this new method of shoeing, 'tis necessary first to premise the following observations, and attend to the anatomical plates before referred to.

Shoes not intended by nature.

It is most certain, that all horses, except such as have their feet overgrown, or such as may have a particular occasion of being shod, to preserve the sole, may, at any rate, go without shoes; and there are many examples, without mentioning the customs of *Arabia*, or *Tartary*, of horses who are at daily work, without the least need of ever being shod; but as we employ all our care, and address, to hollow the foot, by paring it even to the quick, and to form an exact fine frog, it becomes absolutely necessary to set shoes on them.

Shoeing first contrived to preserve the hoof.

The original design of shoeing horses, was undoubtedly intended as a preservative of the hoof, and a defence of the sole; but no one sure could think it necessary to pare away, what he wanted to preserve by the use of the shoes; because that would be to act contrary to his first principles, and destroy his own work.

The absurdity of paring the sole.

This precaution could never be recommended, but in cases where the horny sole is uneven, inasmuch, that the shoe could not bear equally upon it, which would take off from its necessary firmness;

in

in such a case, it may be reasonable, otherwise it would be very absurd.

Let us now observe the going, as well as the external, and internal structure of a horse's foot.

How different horses press on the foot.

The horse then who draws, presses first on the toe, then successively on the sides, to ease the toe; then the horse's heel yields upon the heel of the shoe, from which it immediately rises again.

The saddle, or pack-horse, places the toe but lightly, so that the point of support, is fixed neither upon the heel, or toe, but between both; which it is easy to demonstrate anatomically, Fig. I. plate 2.

How the bones of the foot are actuated.

Thus the cannon-bone 3, presses on the pastern 4, this on the coronary 5, the coronary upon the coffin, or foot-bone 6, and upon the nut-bone 3, fig. 2.

Where the weight of the horse bears.

By this description of the bones, we may observe two essential things, which lay open the faults in the present method of shoeing, and point out the means of being able to remedy them for the future; one is, that the effort of the weight of a horse, does not bear, either upon the toe, or heel, but on the middle, between both; the other shews, the greater the distance of the sole from the ground, or from whatsoever point of support, the more the pushing the coronary-bone upon the nut-bone will fatigue the nerve, or tendon upon which it rests, by the inordinate distension it undergoes at every step the horse takes.

By paring away the sole, it is sustained on the hoofs.

Thus we see, that by hollowing away the sole in paring, the horse is sustained only upon the walls of the hoof, which having no assistance of support from the horny sole, is immediately worn, and batter'd by the weight of the horse's body; and the

the sooner he treads upon any hard substance, the sooner he grows quite lame.

Other inconveniences from paring the sole.

For by the connection, thickness, and flexibility, as well as contexture of the horny sole, it seems to be wholly destin'd by nature, to serve, as a cushion to the fleshy sole, and tendon, which rests upon it, in order to break the violent shocks of a pavement, stone, or any kind of stump, or external violence; but by paring it away in the customary manner, the horse loses his defence of nature, against stumps, nails, glass, &c. and thus the fleshy sole becomes easily bruised, or wounded.

Why the horse goes uneasy, when the frog is not in contact with the ground.

It is observable, that a horse seldom goes easy, or escapes being soon jaded, if the frog does not bear upon the ground, as it is the only point of support to the tendon; so that if you keep it at any distance from the ground, by paring it away, an inordinate distention will happen to the tendon; which being repeated at every step he goes, fatigues it, and causes an inflammation; whence also relaxations, defluxions, and tendinous swellings, especially after long journeys, or hard riding, which are occasioned more by the paring of the sole, than

The frog receives no injury by being exposed.

the length of the journey; experience has shewn, that the frog neither suffers, or has shewn the least sign of fatigue, or sensibility, by being thus exposed; and indeed from the structure of it, it is scarce possible; for being of a soft spongy flexible substance, by its natural elasticity, it yields to the weight of the body, the instant the horse presses his feet to the ground, and immediately recovers it again; however there is one case, whereby the frog may occasion lameness, which is when it grows hard or dry; but by taking off the little end of the frog, this disorder is soon remedied. *The*

The effects of modern shoeing.

As the bad consequences of paring away the sole and frog, have been pointed out, and, I think, evidently proved, let us observe now, the ill effects of modern shoeing; for it is upon the form of the shoes, and manner of setting them on, that not only the preservation of the foot, but also the safety of their legs, and the ease of their motion depends.

In effect, the more easy our shoes set upon us, the more active we are; so a large, long, thick shoe ought to have the same effect upon horses, that wooden shoes have upon us; that is, make them heavy, unweildy, and hobbling.

The inconvenience of long shoes.

A long shoe is not only perfectly useless, but it is even prejudicial; for the horse's heels coming to sink upon those of the shoes, the longer the lever, the greater will be the drag upon the clinches of the nails of the toe; and thus horses will be more apt to strike them off on many occasions; especially when they are apt to over-reach.

Of wide shoes also.

The longer the shoe is, and the more it covers the sole, the more liable the horse will be to fall, trip, and hobble in his walk; particularly if he goes on a pavement; because the surface being formed of round parts, and the shoe having a large uniform hard face, he can scarce have above two or three points of support.

Strong shoe-heels are very uneasy to the horse, and why.

It is thought by some, that strong shoe-heels are an ease to the weak heels, and fetlocks of horses; as if the body of the shoe was flexible enough to yield to the horse's heel, and under this notion, they raise the shoe heel, and leave a vacant space between that and the horse's heel; but the direct contrary happens, for it is the hoof, that by its flexibility yields to the shoe heel, which is quite inflexible;

inflexible; the thicker the shoe heel is, the more subject that of the horse is to meet it, and instead of being eased, the horse's heel becomes more compressed, as if in a constant vice, because it has always the same point of support.

By this means, they deprive them of the liberty of going with ease upon a pavement; because the shoe does not bear upon a level, and produces an effect, like that of a pivot, upon the middle of the shoe heels, and the vault, or hollow.

M. La Fosse's Method of Shoeing.

To obviate these inconveniences, M. *La Fosse* proposes the following method of shoeing; that neither the sole, or frog should be pared at all; for neither will ever become too large by its growth; but in proportion as it grows, it will dry, scale, and fall off in flakes; that the edge of the hoof, if thought too long, should be taken down as usual; and then a shoe in form of a half moon, set on, reaching the middle of the hoof; the heels may be thinned, and the shoes made a little longer for such horses as have weak hoofs.

Eight small nails, made in the old way, that is, having very small heads, are incrusted in the holes, which are made, as the head is, in an oblong form; the figures both of the shoe and nail, are in the plate of shoes.

The Advantage of this Method.

By this method, the sole is preserved, and consequently the foot defended against hard, or sharp bodies, which the horse may chance to tread on; thus inflammations, and dangerous compressions are avoided, and the many inconveniences already mentioned, from the lodgment of sand, gravel, or stones.

Other Advantages.

Another advantage arising from this method of shoeing, and preserving the sole, that natural defence

fence against external injuries ; is, that in not paring away the sole, nor setting on any more shoe than is necessary to preserve the horny sole ; the horse will not be subject to slip, either on the winter's icy pavement, or the dry smooth one of the summer.
The use of the frog and heel when they touch the ground.

For by making a horse walk upon the frog, and partly upon the heel, the former being strongly rubbed, and pushed against the ground, or pavement, impresses itself, as it were, by the weight of the horse's body, into the inequalities, and interstices it happens to meet in its way ; by this means, the foot resting on a great many more parts, which mutually ease it, by multiplying the points of support, gives the animal a stronger adherence, and more security upon the place he goes.

The injury the air does the sole when pared.

By paring away the sole, the air when it is in this thin state, penetrates, and dries it to such a degree, that by its contraction, it compresses the fleshy sole, so as to lame the horse.

Other injuries to the foot, by paring the sole.

By this means also, sand and gravel get in, and are ground between the sole and shoe ; and again, between the horse's heel, and those of the shoe ; which not readily coming out again, cause compressions, inflammations, &c. which last accidents are very often the effects of a stone's being wedg'd in between the shoe heels.

To recapitulate the whole.

The weight of the saddle horse, does not press upon the toe, or heel, but on the middle between both ; so that the greater the distance of the sole from the ground, or from what ever point of support, the more the great tendon will be fatigued, by the inordinate distention it undergoes at every step.

The larger the horse's shoes, the less firm he goes.

The more the sole is covered by the shoe, the
more

more the horse will slip, slide, or fall ; because the surface being formed of round parts, and the shoe having a large uniform hard face, he can scarce have above two or three points of support ; so that the greater contact the horse's foot has with the ground, the more points are multiplied ; and the safer of consequence he goes.

By shoeing, no other intention could be expected, but preserving the hoof, after paring away its luxuriance.

That long shoes, and raising the shoe heel, is a very pernicious custom.

Many inconveniences from paring the sole.

By paring away the horny sole, it hardens in proportion to its being thinned, and by compressing the fleshy sole, makes a horse lame ; he loses also the defence of nature against external bodies, by which means, the fleshy sole becomes often wounded, bruised, &c.

Also from paring the frog.

By paring the frog so much away, that it is not in contact with the ground, the tendon will be inordinately distended ; by which means, it becomes subject to inflammation, relaxation, defluxion, and rupture.

The present method of shoeing contributes to the frequent lamenesses in the feet.

Lastly, It appears from the anatomy of the foot, that horses are chiefly lame in those bones and its tendon, that the present method of shoeing contributes greatly thereto, by paring away the horny sole, and hollowing the foot ; by which means, the fleshy sole becomes more exposed to accidents, and the tendon fatigued, strained, and ruptured ; its support being taken away by paring the frog.

The shoe should be flat, not thick, or hollow.

We may learn also from hence, that no more of the toe should be pared away, than to keep the foot uniform with the shoe ; that the shoe should

should be made flat, in order to adapt itself the better to the foot ; not made too thick, or hollow, nor projecting beyond the horse's heel.

Some objections to this method of shoeing.

This is the substance of M. *La Fosse's* new method of shoeing ; which from its simplicity, and the great ease of performing it, seems to demand our regard and attention ; but though it appears well calculated for the flat pavements, and roads of *France*, yet we doubt its general success with us ; especially in some of our rough stony countries, where the heel, and frog, being left so entirely defenceless, might be liable to frequent injuries from such irregular loose bodies, as flints, loose stones, &c. We should suspect also its success, on moist, greasy, and slippery soils, or chalks ; where the shoe heel, or cramps, seems of great use to support a horse, by the impression it makes in the surface ; how inconvenient soever it may be in other respects, tho' it must be confessed, from our method of shoeing race horses, where the whole foot comes into immediate contact with the ground, notwithstanding the course they run over is often very slippery, yet they seldom fall.

Though not of general use here, yet has great merit.

But though this method may not be so generally adopted by us, in its utmost extent, for the reasons above given ; as well as from the different texture of horses feet, which in some will always demand a particular method of shoeing ; yet it undoubtedly may suit many horses, and many different parts of the kingdom ; and this particular advantage every one may reap from it, *viz.* to pare away as little of the sole and frog as possible, even in the old method of shoeing : the many inconveniences of which, we apprehend, have been sufficiently pointed out, and amply explained ; and would by this means, be in a great measure obviated.

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Directions to be given the Smith with the Model of the Shoe.

THE nails must be made very small, with the Heads flat, and so formed as to fill up the holes made in the Shoe to receive them, above which they are not to rise; the Heel and Frog must not be pared, nor any part of the Hoof except the Toe, or where it is uneven, so as to prevent the Shoe from lying close, which it must do, to prevent dirt or gravel getting in. In setting on the Shoe, care must be taken to set it at a small distance from the outer edge of the wall of the Hoof towards the Heel, but by no means to cut or rasp the Hoof to line with the edge of the Shoe, as is the present practice. If the Horse has good Feet, or that his Hoof has not come to its full growth, the Heel of the Shoe may be half an inch shorter than the Pattern. Horses are not to be shod in this manner, without first giving Nature an opportunity of providing them with what she intended for their defence, a well grown Hoof and Frog.

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